ALASKA

MINER BRUCE

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ALASKA

A DANGEROUS PLACE ON THE "WORLD'S CUT-OFF," SKAGUAY TRAIL.

ALASKA

ITS HISTORY AND RESOURCES
GOLD FIELDS
ROUTES AND SCENERY

BY

MINER BRUCE

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PREFACE

I FIRST went to Alaska in 1889, and subsequent investigation and research so impressed me with its future possibilities that in 1893 I issued a small book on Alaska, and gave it the title *The Coming Country*. Viewed in the light of after developments, it seems to have been prophetic.

In 1895, I issued a more comprehensive work entitled *Bruce's Alaska*, and the growing interest in that region seems to justify the publication of this volume, in which I have undertaken to give an intelligent idea of the vast and varied resources of Alaska, its past and present, and the bright outlook for its future, based upon ten years of travel and observation.

A more complete reference to what is known as Southeast Alaska than is herein contained may be found in my monograph in the United States Census Report for 1890, and a more detailed account of the Eskimos of Alaska will be found in my report to the Bureau of Education. Both may be had free upon application to their respective departments in Washington.

While the interest in this region, aroused by the wonderful discoveries of gold in the Klondike, is bounded only by the limits of the two hemispheres, the world does not yet realise the vastness and variety of its resources.

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On account of its severe climatic conditions, the establishing of new enterprises and the carrying on of mining pursuits can be accomplished only with great difficulty.

I need give no admonition or advice "to go," for already the tide of emigration has turned toward this portion of the domains of the midnight sun, and the bleak hills of Alaska are swarming with hurrying thousands eager to identify themselves with this new Eldorado; but if anyone expects to succeed there without experiencing the hardships and privations incident to pioneer life, he will be disappointed.

MINER BRUCE.

NEW YORK, April, 1899.

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[1] Reproduced from a photograph by La Roche, Seattle, Wash.
[2] Reproduced from a photograph by Winter & Pond, Juneau, Alaska.

ALASKA

ALASKA

CHAPTER I

HISTORY

ALASKA is the name of all that portion of the northwest extremity of this continent, which, until 1867, was known as Russian America.

It is only a matter of conjecture how long this region would have remained a *terra incognita* had not the Imperial Government at St. Petersburg sent Vitus Bering, a Dane by birth, on a voyage of discovery. The year 1728 saw him in command of an expedition whose object was to find, if possible, new lands, and whose course led through the waters east of Siberia until he arrived in the great closed sea that now bears his name.

The object of this expedition does not appear in any degree to have been a desire to contribute to the cause of science; but the prime motives were aggrandisement and to extend the limits of trade.

During this voyage, Bering discovered that the two continents were separated by only a narrow stretch of water at the point now known as Bering Strait, and that

the coast of the one was plainly visible from the shores of the other. The year following, this intrepid navigator endeavoured to find a coast-line across the waters to the eastward, but failed in his attempt.

TOTEM POLE.

Immediately following this cruise, and for many years after, there were rife rumours which seemed to gather impetus with each recurring year, aided, doubtless, by Bering's own record of his voyages, that a rich country lay in the "Far Beyond," and so the Russian Government was stimulated to persist in its efforts.

In 1741, Bering again set sail with two vessels. Severe weather and heavy fogs caused them to drift apart; one of them attempted a landing at Cook Inlet, but the Indians attacked and killed a number of the party, and caused the remainder to put to sea and make their way homeward as fast as possible.

Bering, however, sailed farther eastward, and sighted an island near Cape St. Elias now known as Kayak Island. There appears to have been no extended exploration at that time; for, ere long, we are told, Bering also turned the course of his vessel westward, and, being beset by violent storms, was stranded east of the Gulf of Kamtchatka, upon the island which now bears his name; and there shortly after, being overtaken by disease, he died and was buried.

To this fearless explorer belongs the honour of discovering and naming Mt. St. Elias, which, towering 18,000 feet heavenward, stands a weird and grandly beautiful monument to his memory. This snowy shaft marks the southern point of the boundary line separating South-east Alaska from the great region, extending many hundred miles northward to the frozen ocean, known as Western Alaska; an august sentinel, clad in robes of white, there it stands, forever keeping a silent vigil over the waters of the mighty Pacific.

The Spaniards, in the prosecution of their search for the supposed passage to India, which was the great objective point of their early navigators, were gradually extending their explorations northward from the South American and Mexican coasts. In 1592, Juan de Fuca reached as far north as the strait that now bears his name, and in 1775 we find that Spanish explorers had reached Sitka.

The Russians, in the meantime, had arrived at Unalaska.

Nor had the English forgotten to send representatives to this new field of exploration. Captain Cook, one of the most daring navigators of his time, justly shares with Bering, who preceded him, as does also his young lieutenant, Vancouver, who followed him, the glory and honour of navigating the waters of Bering Sea and the North Pacific. It was on his return voyage that Cook was treacherously killed, and, it is believed, eaten by the natives on one of the Sandwich Islands.

The uncompleted work of Captain Cook fell upon the shoulders of a worthy successor, and the surveys which

Vancouver commenced about 1792 covered his name with glory. The remarkable care and ability with which he executed the work begun by his old commander are, even in this day of improved facilities of maritime science, held in honour; for his charts are closely followed and in the main found reliable.

From the time of the planting of the Czar's flag upon the soil of this great unknown country, its honour was sullied by acts of oppression and cruelty. The Russian-American Fur Company had securely planted its trading posts throughout the new territory, but its rule was characterised by the most barbarous conduct, and it became so notorious that at the expiration of its charter in 1862 the Government was forced to deny further franchise.

Three years later, in 1865, the Western Union Telegraph Company proposed to construct a line from San Francisco northward through the Pacific States and Territories to connect with the Russian line at its then terminus, Amoor, Siberia. Many miles of line were built, but the route failed of completion because of the successful laying of the Atlantic cable, and after an expenditure of over $3,000,000 the enterprise was abandoned.

The path of the proposed route can yet be traced for many miles in the North-west Territory by the poles that are standing with wires stretched between them. The outpost of the party engaged in its construction reached a point and made its winter quarters within sixty miles of the extreme western limit of the continent, and the remains of two members of the party lie buried in graves dug in the icy shore, two miles east of the United States reindeer station at Port Clarence, Alaska.

The United States purchased Alaska from Russia in 1867, paying the sum of $7,200,000 for it. At the time of the purchase this was generally looked upon as an extravagant expenditure; but ridicule at the action of Secretary Seward in this transaction has been changed

RUSSIAN BLOCKHOUSE AT SITKA.

to a sentiment that credits him with shrewd diplomacy in thus securing this great territory.

Conjecture is never idle, and various reasons have been assigned why Russia disposed of her vast possessions on this continent.

It has been said that the United States commenced the negotiation to remunerate Russia, under the guise of purchase, for her friendly attitude toward us during the civil

war. Many also believe that Russia sought to dispose of this territory to the United States that England might not, in some way, absorb it, and so strengthen her already powerful hold on this continent. The most reasonable solution of the question, however, is, that she wished to be relieved of the care and protection which her subjects so constantly required of her in maintaining the semblance of a government on this continent, so far removed from her own shores. This view is also strengthened by the fact that Russia at no time from the earliest acquisition of the territory manifested any special interest in its development, and that the motives that actuated her in holding her possessions were largely influenced by the Russian-American Fur Company.

While the name "Alaska" has been a synonym for a bleak, inhospitable waste of ice and snow, its literal interpretation will permit of no such construction. The aboriginal word is "Al-ak-shak," and means a great country.

Covering a country eight hundred miles north and south by about seven hundred east and west, containing six hundred thousand square miles, or an area equal to one-sixth of all the rest of the United States, it seems an empire in itself.

It was Charles Sumner who, at the time of the purchase, suggested the name "Alaska," and it was as a compliment in return for his warm advocacy of the purchase that Secretary Seward sanctioned the suggestion.

In 1890, the lease of the fur-seal islands to the Alaska Commercial Company expired, and at that time Alaska may be said to have emerged from a mantle of gloom

and desolation. By this we mean that the great barrier in the way of its development was removed when this industry passed into other hands.

The day that marked the lowering of the Russian flag at Sitka and the hoisting of the Stars and Stripes realised the conception of a plan between a few shrewd men who saw in the fur-seal industry a great opportunity to make money. For many years, under the Russian régime, these islands had been made to yield a large revenue to those who controlled the business, but it remained for the men who formed this new combination to make it one of the richest private enterprises that ever thrived under this or any other Government.

Quietly, and before the vastness of the undertaking became known, it had passed into the hands of men who knew how to manipulate it, and for a period of twenty years, millions of dollars were made and many men became millionaires. Nor did the avarice of the combination stop here. Trading posts were established all along the southern coast, and within a short time, upon the banks of every stream of any importance that pours its waters into Bering Sea, a trading post was stationed, and a sharp, shrewd frontiersman, in the employ of this company, was there to trade his wares to the natives in exchange for furs.

It is reasonable to suppose that a combination which had the foresight and tact to secure from a great Government the monopoly of so rich a franchise, would also be able to absolutely control all the territory it sought to encompass from the encroachments of competition. During the entire time that the company held possession

of this lease, it took care that the impression should prevail that Alaska was good for naught save the production of fur-bearing animals. In doing this it used the strategy which other business corporations would be likely to use to protect their own interests.

But the eyes of an adventurous world are never long blinded, and during the last years in which they controlled this lease the company was charged with every conceivable crime, and was constantly obliged to defend itself against charges of mistreatment of natives. Investigation, however, always exonerated them, and showed that the complaints were the outgrowth of petty malice on the part of discharged employees or of jealousy among rival fur dealers who were not in the combination.

By the terms of the lease it was liable at any moment to be annulled for neglect or mistreatment of natives, and this would "destroy the goose that laid the golden egg." Knowledge of the business methods of these men will effectually dispel any suspicion that they would, by word or deed, commit an offence that would destroy the source of so vast a revenue.

But there came a time when the grip that this company held upon Alaska must be relaxed, and the spring of 1890 saw the lease of the fur-seal islands pass into the hands of the North American Commercial Company.

The whole southern coast was invaded by the new combination, which established trading posts at every point that promised business with the natives. With the advent of the new company, a monthly mail route, for seven months of the year, was opened from Sitka to Unalaska, and post-offices were established at different

points, thus affording an opportunity to reach sections of the country that theretofore had been practically unknown.

While the extension of the mail service has not yet resulted in the building up of any considerable towns or villages, the effect has been to open communication between the southern coast of Alaska and the outside world.

The census of 1890 gave the white population at 4300, but during the last nine years these numbers have been largely augmented, and it is safe to say that the white population will now aggregate 20,000. Since that date, also, the mining interests of the Territory have largely increased, especially in the interior, and with the recent discoveries of gold in the Yukon region the country has grown with great rapidity.

The government of Alaska, covering the period from its acquisition to the year 1884, was more of a military form than otherwise. The only officers stationed in the Territory were those belonging to the customs service. It was their duty to see that any infringement of the laws, as, for instance, smuggling liquor into the Territory, or selling the same to Indians or white men, was corrected; and, if necessary, they invoked the aid of the military or naval force.

About the year 1880, the white residents of South-east Alaska began to discuss the feasibility of securing some sort of civil government for the Territory. And in the summer of 1881 a convention was held at Juneau, which resulted in the selection of Mottrom D. Ball as a delegate to Congress. The following winter he appeared in Washington, presented his credentials, and asked to be

recognised as a delegate from the Territory of Alaska. Further than to attract some attention to the condition of its affairs, Mr. Ball's visit to Washington was of no great value, for he was not permitted to take his seat. Still, the wedge had been applied to the encasement of the difficulties that encompassed Alaska, and the light of intelligent investigation was dawning on her horizon. During the next session of Congress, various bills were introduced looking to the passage of laws that would give to Alaska some semblance of a civil government.

In 1883, Senator Benjamin Harrison introduced a bill, which became a law the following summer. It is called "The Organic Act of Alaska," and provides for the appointment of a governor, district judge, clerk of the court, marshal, collector, and four United States commissioners, one of whom is to reside in each of the principal towns of the Territory, the other officers to reside at Sitka, which, by this act, was made the temporary capital: and all these officers were to be appointed by the President.

This act, though very defective when viewed by the light of the past fourteen years, was still a step in the direction of a civil government.

Alaska is essentially a prohibition country. It prohibits the cutting of timber, and the exporting of the same out of the Territory; it prohibits the killing of fur seal, except under certain restrictions, which give to a company the exclusive control of the same; and until the passage of the law of March 3, 1899, it prohibited the sale or manufacture of whiskey in the Territory, though previous to that date it could be had in almost any village or hamlet within its borders; and notwithstanding this

absolute prohibition, the Government saw fit to collect an internal-revenue tax from all persons having it for sale. The governor was permitted to use his discretion as to whom he would grant a license.

The attempt on the part of the Government to restrain this traffic in Alaska proved to be a ludicrous farce, because of the wholly inadequate means at the disposal of the officers whose duty it was to execute the laws.

This condition of affairs culminated in the passage of a law on March 3, 1899, providing for the selling of intoxicating liquors in Alaska, and a license to be granted to any person by order of the district judge when a majority of the white male residents over the age of eighteen years, within two miles of the proposed saloon, shall have signed a petition therefor; but the license shall not be issued for a period to exceed one year at a time.

The fee for a wholesale license shall be $2000 per year; for a retail license when the population is over 1500, $1500 per year; in settlements of 1000 inhabitants, $1000; and in those of less than 1000 inhabitants, $500 per year.

Druggists may keep liquor for sale and for compounding of prescriptions without paying a license, but can sell only upon a prescription of a reputable physician.

As there is but one district judge in all Alaska, who is located at Sitka, and as liquor cannot be sold until after a license has been issued, it is plain to be seen that an applicant for a license for carrying on business in the western part or interior of Alaska may not secure the same for several months after application is made. Indeed the period of the year for which it may have been

granted is liable to have expired before it reaches him. As a fine and imprisonment are the penalty for selling liquor without a license, the revenue arising from the business is apt to prove insufficient to compensate him for any infraction of the liquor law.

From the earliest settlement of Russian America down through the years since the purchase by the United States, the liquor question has overshadowed every other, and the sturdy miners and those following other pursuits, and especially the missionary people, have been in constant anxiety as to the effect unexecuted liquor laws would have upon the native population.

The visit to Alaska of Assistant Secretary of the Treasury Hamlin, in 1894, resulted in sending into the waters of South-east Alaska additional revenue cutters for the purpose of suppressing the smuggling of whiskey from British Columbia, and although they have patrolled the waters diligently and sent officers ashore for the purpose of intercepting cargoes of liquor known to have been shipped into the Territory by small sloops, the vigilance of the search has as yet been rewarded by the capture of but a very small portion of the amount smuggled.

The nature of the country is such that its many intricate and winding channels afford most favourable opportunities for the smuggling of liquor into the territory, and it is doubtful if any rules could be adopted, even to the regular patrolling of its waters by Government vessels, that would prevent the traffic.

The impossibility of suppressing this traffic became so apparent that the best and most respected citizens of the Territory united in the opinion that the only way to regu-

late the trade was to have a license law. Such being now the case, the men who pay for the privilege of carrying on the business will see that only those who are legally authorised are permitted to do so. This will suppress the dangerous element known as "boot-leg" venders, who sell liquor by the pint or quart to the natives, and many such evils which formerly existed will by this means be effectually suppressed.

In 1888, the Democrats of Alaska formed a party organisation and sent two delegates to the Democratic National Convention. These delegates were permitted to take their seats, and this was the first representation of the Territory by her citizens.

In the fall of 1889 the Republicans organised and held a convention at Juneau, and adopted a memorial to be presented to members of Congress. The author of this book drafted the memorial, and was delegated to proceed to Washington and present it to both houses of Congress. He was also chosen a member of the National Republican Committee from Alaska.

The memorial referred to represented clearly the condition of affairs in the Territory, and is here given in full, as follows:

To the Republican Members of the United States Senate and House of Representatives:

We, the Republicans of Alaska in convention assembled, respectfully represent to your honourable body, that on this the fifth day of November, 1889, a day when the Republicans in the various States and Territories of the Union are contesting for the principles of our great party, we are denied that sacred privilege.

Among the great Territories of the west, we alone stand a monument representing complete and utter isolation and non-representation. With an area sufficient to form a dozen States, with resources unnumbered and unlimited, with no manner of expressing our just needs or to demand our just rights, with a population of upwards of ten thousand whites and fifty thousand natives, among whom are many intelligent and industrious, we come to you for relief.

With no means of acquiring title to property in which our capital is invested and our labor is expended, we ask the passage of such laws as will afford us relief in this direction.

With many of our people desirous of securing land upon which they can engage in farming, stock raising, dairying, and other pursuits of husbandry, we ask that the homestead laws be extended in such manner as will open up this domain for that class of our citizens.

With hundreds of thousands of dollars invested in the fish industry, we ask the passage of such laws as will secure titles to their property, and encourage the development of one of our greatest resources, and one which is fast becoming valuable to the nation at large.

With vast forests extending throughout the Territory, we ask that the present laws relative to the cutting of timber be so modified as to allow it to be used for domestic purposes, by the canneries in the packing and exportation of their fish, and by parties actually engaged in manufacturing enterprises within the Territory, and the exportation of furniture and other wooden-wares, etc., manufactured from our native timber.

The judiciary of Alaska is anomalous, lying between and dependent upon the general laws of the United States and the general laws of the State of Oregon, and having no true basis from which it can be interpreted. Therefore we ask that a code of laws be enacted for the District of Alaska, suitable to our wants and circumstances and made applicable to our growing industries and communities.

To-day Alaska stands alone among the great Territories of the west without a representative upon the floor of Congress, and we deem it unjust that a longer denial of the rights

accorded other portions of our country should be imposed upon us.

In presenting this memorial to your honourable body we humbly ask your unanimous aid in our behalf, and we will ever pray, etc.

C. F. Depue, *Chairman.*
C. S. Blackett, *Secretary.*

The next Republican National Convention allowed Alaska the same representation as other Territories, and the Democratic National Convention followed with a like action.

During the winter of 1889–90, General George W. Garside and the author laboured with both houses of Congress to secure the passage of such laws as were demanded by the memorial; their efforts were so far successful that the House Committee on Territories unanimously adopted the bill which on the 3rd of March, 1890, became a law.

While this bill did not by any means meet the needs of the Territory, it was thought best to urge its passage, because the situation resolved itself into a choice of this or nothing.

Until the passage of the bill extending the homestead laws to Alaska on May 14, 1898, the only way by which title to land could be secured in Alaska, except under the general mining laws of the country, was under the act of March 3, 1890; by it individuals or companies may purchase land at $2.50 per acre, for business or manufacturing purposes; and residents of towns may acquire title to their lots.

In the fall of 1890, the people's convention held in Juneau selected Captain James Carroll, the well-known master of the tourist steamer *Queen*, to proceed to Wash-

ington, for the purpose of securing legislation. It was largely through his efforts that the bill referred to became a law.

It is worthy of mention, in connection with Captain Carroll's efforts in behalf of Alaska, that when he arrived in Washington he proposed, should Congress not be disposed to pass the laws needed for the protection of its citizens, that he was ready to purchase the Territory of the Government, and was also prepared to close the transaction for the sum of $20,000,000 at any time the Government would accept it. This proposition, so characteristic of the man, was looked upon by many in the light of a joke; yet it was meant seriously and had the effect of opening the eyes of many public men to the value of this vast new country.

On May 14, 1898, Congress passed a bill extending the homestead laws to Alaska, and the rights incident thereto, including the right to acquire title, through soldiers' additional homestead rights, to surveyed and unsurveyed lands, but the surveys must be made at the expense of the applicant.

Homesteads may be taken and held by a party making actual settlement and improvement, but cannot be entered or patented until the public surveys have been regularly extended over them.

The limit of a homestead is fixed at eighty acres, and when taken on any navigable water it shall not include land lying between high- and low-water mark. Neither can a homestead exceed eighty rods along the shore of any navigable water, and sixty feet wide extending along the shore line shall be reserved as a public highway, and

this reservation shall be deducted from the eighty acres allowed as a homestead.

Land districts have been established with offices at Sitka, Nulato, Circle City, and Peavy.

Alaska has no legislature or officers elected by the people at large, but is treated as a District, similar, perhaps, to the District of Columbia, where Congress directly governs affairs.

The passage of the Organic Act of 1884 brought into the Territory as Government officials many men from different States of the Union, most of whom were men of character and ability. In their official capacities, they have had excellent opportunities to familiarise themselves with the vast richness of the Territory, and the close of their terms of office has seen most of them earnest defenders of its interest.

Perhaps the most enthusiastic of its advocates is A. P. Swineford, who was appointed Governor of Alaska by President Cleveland during his first term of office. His warm espousal and radical views of the resources of the Territory attracted a great deal of attention to Alaska.

He was charged with exaggeration and deceit in his statements of the resources and future possibilities of the country in his reports to the Government, but the developments of the past few years have demonstrated that his pictures were not overdrawn.

In the fall of 1894 a people's convention was held at Juneau, and a memorial to Congress, similar to the one adopted by the convention of 1889, and which the author of this book also had the honour of drafting, was unanimously passed.

It was suggested by some of the delegates to select as representative to Congress Miss Kate Field, whose championship of the Territory had been so marked that upon every opportunity offered she urged Congress to do its duty and relieve the inhabitants of their burden. That she thereby gained the admiration of Alaska's citizens is proved by this suggestion, but delicacy lest the action be regarded in the light of a burlesque, and the fact that no opportunity was allowed to ascertain if the honour would be accepted, finally caused the suggestion to be abandoned, and Mr. Thomas S. Nowell was unanimously chosen delegate to Congress.

Mr. Nowell's large mining interests in Alaska, and his extensive acquaintance among members of Congress and officials in Washington, placed him in excellent position to command respect and wield influence; and but for the fact that the session was a short one, Alaska would in all probability have been recognised and Mr. Nowell seated as its first delegate.

On March 3, 1899, Congress passed a law known as "A Code of Criminal Procedure," which provides for the punishment of crimes, and exacts a license of every individual or corporation carrying on business of whatsoever character within the District of Alaska.

Only those who have had experience in the matter can realise the difficulty of securing legislation for Alaska. She labours under the exceptional disadvantage of having no one to whom she has a right to appeal for aid.

The members of Congress from other States and Territories have their own constituencies to look after; and the demands upon their time by legitimate claimants are

so many and so great that they can hardly be expected to labour for the interests of a country so remote and of which they know so little.

The next few years must bring about great changes in the governmental affairs of Alaska. Even now several propositions are under consideration looking to the formation of new Territories. Should a separation ever occur, Southeast Alaska as far north as Sitka is peculiarly set apart by its natural construction for a new Territory. But in our opinion Alaska should always have been held as a reservation or public domain where enterprises unfettered and untrammelled by taxation could have full sway. Among the residents there is a widespread feeling opposed to territorial organisation on account of a dread of taxes and the expense of maintaining a form of government.

The area is so vast and the settlements are so widely separated that it is doubtful if a system of voting could be devised that would result in a fair expression of the voice of the people. The peculiar climatic conditions of the country, its remoteness from civilisation, and the transient character of the inhabitants are strong arguments against the organisation of the District of Alaska into Territories.

But if a law were passed granting Alaska a delegate to Congress, appointed by the President for a term of four years, and with the same privileges accorded delegates from other Territories, all interests could be subserved without the enormous expenses attendant upon carrying on the machinery of territorial government.

Such a provision would give Alaska a representative on

the floor of Congress who would be authorised to act for the Territory, and whose business it would be to secure needed legislation. He should be an actual resident, and there are many men within the Territory who would make creditable representatives, and whose knowledge of its requirements would be of inestimable value.

CHAPTER II

TOPOGRAPHY

THE elements of grandeur, weirdness, solemnity, and vastness enter, in a large degree, into a topographical description of Alaska. Its many interesting features hold the mind spellbound with awe in their presence and fill the memory with undying wonder. We behold them in the labyrinth of verdant islands that diversifies the coast line; the swelling plains of the interior; gigantic mountain peaks, snow-covered and hoary with age; the mighty glaciers—vast rivers of ice which for centuries have slowly forged their way to the abyss of the ocean, and which, before many more centuries, will have entirely disappeared, so that future ages will know them only by the records of their awful sublimity; the active volcanoes rearing their smoking, often fiery, crests among the mountain peaks; and the valleys, great and small, rich in natural resources of many kinds, which intersect the interior country in all directions.

Alaska is naturally divided into two great divsions—South-east and Western Alaska. Mt. St. Elias marks the dividing line between Western Alaska and South-east Alaska, at 141 degrees west longitude, running north from this point to the Arctic Ocean. For a number of

years it was supposed that Mt. St. Elias was within American territory, but late surveys show most of its base to be just over the line in the Canadian Dominion.

Many of the islands in the inland, or tourist route, have the appearance of half-submerged mountains, and water two hundred fathoms deep is often found where the breadth of the channel can be almost spanned by the length of the ship.

Fiords are numerous, some of them winding in serpentine fashion a distance of twenty or more miles into the islands or mainland. The great rivers of the interior drain immense valleys, with mountain ranges everywhere visible. Lakes are abundant, often surrounded by tundra, or swamps, very frequently impenetrable, covered with brush, rank grasses, and other vegetation. After the interior is reached—and by this is meant after the coast mountains are crossed, in many places only twenty or thirty miles from the coast—the soft earth and luxuriant vegetation of the coast country give place to frozen ground, and lichens and mosses on the mountain sides and in the valleys. But though the vast plains of the interior are completely within the grasp of the ice king for eight months of the year, with the advent of the long days of summer, water runs, flowers bloom, and grasses spring into life as if by magic, and their growth is at once luxuriant and rapid, even though in many places the soil is never thawed beyond a few inches below the surface.

In the far north at Point Barrow and at St. Michaels, wells have been dug sixty feet through frozen ground, and the same condition exists on the Yukon and its tributaries.

The Aleutian Islands, stretching far out into the North Pacific, surrounded by rocks scarred and battered for ages by the boisterous waves, are without trees, but they are thickly covered with a low growth of luxuriant vegetation. Between the mountains and the sea are small plateaus or prairies, with soil enriched by vegetable mould and suitable for domestic gardening. Grass grows abundantly here, sometimes to a height of six feet. It is cured by the natives, to feed a few small Siberian cattle, and they also braid it into useful and often ornamental articles, such as baskets, hats, and mats. The growth of this grass is so abundant and prolific that investigators have predicted that this Aleutian country will yet furnish the Pacific coast with its best butter and cheese; while botanists agree that the southern coast country of Alaska abounds in grasses, and has a climate perhaps as well adapted for haying as the coast of Oregon.

The Russians esteem Cook Inlet, which lies to the north of Kadiak, to be the pleasantest portion of Alaska in the summer season. Its skies are nearly always bright, as stretching far inland in a north-easterly direction it is out of the region of fogs, which so frequently prevail on the coast. Its shores are pleasant, being well wooded and watered. Gold has been found in large quantities, and recent reports tell of still richer placer deposits having been discovered on the inlet itself and on the Kakni River, which debouches into Cook Inlet.

The guiding landmarks of Alaska may be said to be its grand mountains, volcanic peaks, and mammoth glaciers. Mt. St. Elias lifts its ermine top over 18,000 feet above

the level of the sea. In the distance it seems to have its base on the very shore of the ocean, although in reality sixty miles away. From the south side of Mt. St. Elias eleven glaciers slowly make their way oceanward, one of them, named Agassiz Glacier, being estimated to be twenty miles in width and fifty in length, covering an area of one thousand square miles.

Mt. Fairweather, one hundred and fifty miles south of Mt. St. Elias, is about 15,500 feet high; Mt. Crillon, 15,000; Mt. Perouse, 14,300; and Mt. Wrangell is over 19,000.

There are thirty or more volcanoes in Alaska, six or eight of which are in an active state of eruption. Shishaldin, which is 9000 feet high, is burning, and its smoke may always be seen in clear weather. It is situated on Unimak Island, near the pass of the same name usually followed by vessels in entering Bering Sea. Pavlof, about one hundred miles to the eastward, is another smoking mountain; the glow from its crater may be seen reflected against the heavens. Mt. Makushin, at the eastern extremity of Unalaska Island, is about 5500 feet in height, and gives evidence of being more or less active; while the tops of Pogrumnoi and Shishaldin, on Unimak Island, serve as beacons at night or in foggy weather for vessels on their way into Bering Sea, as they can be seen distinctly, towering above the dense atmosphere. Akutan Island has a smoking volcano, 4000 feet high; and on Atka Island there are several volcanoes, from 3000 to 4000 feet in height, which occasionally emit smoke.

Eighty miles west of Unalaska, Mt. Bogoston is in

MOUNT BOGOSTON VOLCANO.

constant eruption. It is the most remarkable and picturesque volcano in all Alaska.

Mt. Logan, the highest known mountain in North America, unless it may be Mt. Wrangell, has an elevation of 19,000 feet. Some surveyors claim that Wrangell is a loftier peak than Logan, but its exact height is unknown. Wrangell is clearly within Alaska, but Logan is a few miles east of the line in Canadian territory.

One of the most interesting landmarks in all Alaska is what is known as Priest Rock. It stands seventy-five or eighty feet high in Bering Sea just to the west of Unalga Pass. Probably no landmark is sought with greater eagerness by vessels navigating Alaskan waters than this remarkable structure of nature, standing out against the horizon with such clearness that the mariner never mistakes his position when once it is sighted. It could not be better named, for its outlines perfectly resemble a priest whose arms are plainly seen beneath a rocky robe, outstretched as if in benediction.

In Behm Canal on the eastern side of Alaska, standing almost in the middle of the channel, is another interesting work of nature. It is a rock rising to a height of over one hundred feet, having a base of about fifty feet square, gradually tapering towards the top. It was discovered by Vancouver, and named New Eddystone Rock after the rock near the south coast of England upon which stands the famous Eddystone lighthouse known to mariners the world over.

Hot mineral springs abound all over the various island groups of Alaska, especially those stretching from the Alaskan peninsula westward towards Asia. About fif-

teen miles south of Sitka, hot springs are also found, which possess great curative properties. Consumption, scrofula, syphilitic diseases, and rheumatism are common among the aborigines, consumption being the most fatal; while scrofula prevails to a great extent, aggravated, it is believed, by an almost exclusive fish diet and by rank uncleanliness. Syphilitic diseases, the terrible heritage left these natives as the result of contact with sailors in the early days, and augmented by uncleanly habits, are likewise common. These diseases are said to yield readily to the treatment afforded by these natural health restorers, the hot springs, and it is claimed they can, to all appearances, be entirely eradicated from the system after a few weeks' bathing and drinking the waters of these springs. They all possess similar properties, being strongly impregnated with iron, sulphur, and magnesia.

During the Russian occupancy bath-houses were built at Sitka springs, and bathing tanks constructed, and natives and whites from this portion of the territory frequently visited them.

Hot springs are also found near Loring, and others at Hoonah, these being more patronised, because they are nearer the settled portion of the country.

The aspect of the country about Bering Strait is mountainous, but not extremely precipitous. From Cape Prince of Wales, another continent, Asia, may be seen, for the Siberian coast is plainly visible. Citizens of the United States and the subjects of the Czar of all the Russias, metaphorically speaking, might stand on their respective shores and clasp hands across the narrow channel

PRIEST ROCK, ENTRANCE TO BERING SEA, NEAR UNALGA PASS.

called Bering Strait, which connects the waters of the Arctic Ocean with Bering Sea.

This strait is but forty-eight miles wide, and the narrow passage is partially filled by Little and Big Diomede Islands near the middle of the strait. The islands are only two miles apart, and the line of demarcation between Alaska and Siberia runs midway between them. The shallow water of Bering Strait, averaging only about twenty-seven fathoms in depth, and the short distance between the two continents, give rise to interesting speculation concerning the connecting of the eastern and western hemispheres by a railroad which would, literally, girdle the world. Fancy leaving New York by special limited train, traversing the North American continent longitudinally to the great Yukon valley, then westward to Bering Strait, crossing it with the trans-Siberian Railway as a connection, and speeding on to St. Petersburg, Paris, London, etc.; and this is within the realm of possibility. Engineering skill has made rapid progress within a decade, and who shall say what the genius of man aided by wonderful inventions and electricity will accomplish!

It will be a physical impossibility to span Bering Strait with a bridge, owing to the swift current and the vast quantities of ice which, in winter, are continually flowing through, and which would speedily demolish such a structure. It may be possible, however, that the strait could be tunnelled, but it is here suggested—as more practicable—that it could be filled in with rock, allowing sufficient openings for the waters to flow through and for vessels to pass, thus forming an adamantine roadway be-

tween the extreme west and east, as represented by the United States and Siberia.

The mountains that mark the westernmost point of the continent at Cape Prince of Wales are rocky and barren, the ledges standing upon high pillars, with shattered sides and uneven surfaces. Towards the base, facing Bering Strait, the slope is gradual, extending into a low, sandy beach reaching out into the strait a mile or more and then bearing to the north. Endless quantities of rock could be taken from these mountains of solid stone and dumped into the strait, until a roadway would rise from the bottom of the shallow waters. The expense, it is true, would be enormous—and no attempt is here made to discuss scientific difficulties in the way—but let it be remembered that all great engineering projects have been first ridiculed and denounced as chimerical, as, witness—the Suez Canal, Nicaragua Canal, the Panama Canal, and other great triumphs of engineering skill. To carry so gigantic an enterprise to a successful completion, unlimited capital and labour would be required. In the matter of labour, if white men could not be found, twenty-five thousand Eskimos from Alaska and Siberia, who are indefatigable workers, could be utilised. And should the enterprise be undertaken jointly by the Governments of the United States and Russia, the latter would, no doubt, make use of her convicts, as she is now doing in the construction of the trans-Siberian Railroad.

An all-rail route from the new world to the old, across Bering Strait, would be the connecting link to weld the nations together in the development of commerce and of the untold riches of little-known portions of the two vast

ESKIMO VILLAGE AT CAPE PRINCE OF WALES, WESTERN EXTREMITY OF THE CONTINENT.

continents. That this would be a mammoth undertaking is not denied, but its possibility cannot be questioned. It is not all fanciful—" the unsubstantial pageant of a dream "—but is rather the living, actual reality, that before another quarter of a century has rolled away a great international highway will be opened up and the nations of the world will become its patrons.

The dangers and difficulties that formerly beset the miner in his efforts to reach the gold diggings of the interior from Lynn Canal to the headwaters of the Yukon have been overcome in the past few months by the building of a railroad from Skaguay, called the Skaguay and White Pass Railway.

The extension of this railroad along the valley of the Yukon, as contemplated by its projectors, is a question that the future will have to determine. There is no doubt that the natural obstacles of the interior can be overcome if the commercial importance will justify the expense that would be incurred.

Another interesting feature of railroad building in Alaska is the organisation of a company for the purpose of constructing a railroad from a point about sixty miles north of St. Michaels to the Yukon River, at the mouth of what is known as Kaltag River.

The survey runs from the mouth of the Unalaklik River, following this stream along the south bank, and crossing a short divide to the Kaltag River, which stream it follows to the Yukon. The distance from the initial point to its proposed terminus is only eighty miles, and it has an easy and natural grade the entire distance. The route follows the trail used by the Yukon River Indians

for many years in making the overland journey to the coast of Bering Sea, and by reference to the map it will be seen that this route saves over five hundred miles of river travel.

The Yukon River at its mouth is very shallow, and the navigation of this stream for the first four or five hundred miles is attended with great difficulties on account of its uncertain channel. As all Yukon River boats start from St. Michaels, eighty-five miles of ocean travel must be made from this point to the mouth of the river. There are no mines or important business points from the mouth of the river to Nulato, and if this long portion of the trip could be dispensed with, it would be a great saving of expense.

The building of this railroad would mean the saving of six or eight days of travel to the Klondike after leaving the steamer on the Bering Sea side, and undoubtedly cheapen the cost of supplies at the mining camps, which is a matter of great importance.

Alaska offers many inducements for railroad building. The physical contour of the country, especially in the interior, presents few obstacles, and the numerous valleys afford natural avenues for the construction of these great highways. The many tributaries of the Yukon will yet hear the snorting of the iron horse, and the vast coal fields, mountains of silver and iron ore, as well as many other natural resources of this country, will be opened up by the enterprise of the twentieth century. The indomitable energy and power of man will yet lay this vast country under tribute and cause it to yield a golden harvest.

LANDING RAILROAD SUPPLIES NEAR UNALAKLIK RIVER.

Alaska is the only frontier left in our great country to-day. Though in time it may contain many thousand people, yet it will never, on account of its climatic conditions, maintain a large permanent population. Towns and villages may spring up, but not one of them will develop into a metropolis of any considerable size, for its inhabitants will always be transient. It is a conspicuous fact that every man, woman, or child who goes to Alaska looks anxiously forward to the time when he can return to civilisation.

CHAPTER III

CLIMATE AND AGRICULTURE

THE beneficent Japan current influences the whole country, even as far north as the Kuskoquim River, and has the effect of soothing the climate of the North Bering seacoast.

Precipitation is very great in the southern coast country. The air is cool during the pleasantest time of the year, in the long summer days when the sun shines most. As a rule, it is clear but few days in the year; usually, however, in June and July the sun pierces the deep and heavy clouds that settle over the mountains, and brightens up the landscape. When the sun is obscured, it is liable to rain for days, and sometimes for two or three weeks at a time. But rains here are not so chilly as in most countries where cloudy or rainy weather prevails for long periods, but, as a rule, are warm.

The average rainfall along the coast is not far short of one hundred inches a year, and at Unalaska, in 1884, one hundred and fifty-five inches was recorded.

The fall of snow in the coast country is also considerable. At times it covers the earth to a depth of three feet on a level, but is usually damp, and a snow-storm is apt to turn into rain in a few hours, causing the huge

banks and drifts to disappear. The mercury rarely falls to zero in any part of the southern coast country; it is more likely to register above freezing point than below during the greater part of the winter.

The climate is much drier in the interior, rain occurring, as a rule, only in the spring and summer. Severe showers are sometimes accompanied by fierce thunder and lightning, which rarely is known on the coast.

No other section of this continent presents such a diversity of climate as Alaska. The heat of the summer in the interior is sometimes intense, often registering over one hundred degrees in the shade, and it has been known to burst a spirit thermometer after graduating up to one hundred and twenty. Summer heat, however, is quickly followed by winter cold, and the mercury will fall to fifty or sixty degrees below zero. On one occasion, at Fort Yukon, it is known to have reached seventy degrees below zero. The winter begins about the first of October and lasts until the first of June. The mean temperature during the months of December, January, and February is about twenty-four degrees below zero. This cold weather and long period of winter extends to within a few miles of the coast.

Notwithstanding the marked variations in the climate, Alaska is essentially a healthy country. The only prevailing diseases are those of a bronchial nature, and in most cases these troubles can be directly traced to imprudent exposure.

The snow of the interior partakes much of the character of frost, sifting slowly down in intensely cold weather until it lies several inches deep, light and fluffy; but at

times, in warm weather, it thaws and settles into a hard crust, affording excellent surface for sledding.

The great precipitation and humidity of the atmosphere in Southern Alaska cause the entire coast region to be clothed in a mantle of perennial green. Vegetation is dense, and the forests magnificent. The soil is rich, though in the heavily timbered section it is shallow; and from the most eastern point of the Territory to Kadiak, root crops are easily grown. Radishes, lettuces, carrots, onions, cauliflower, peas, turnips, cabbage, beets, celery, and potatoes yield prolifically. On one-sixth of an acre at Sitka, eighty bushels of potatoes have been raised. It was, however, a plot of ground that had been formerly used by the Russians as a garden and was carefully prepared. Strawberries grow with the greatest spontaneity, and have a flavour equal to those of southern latitudes. Some extensive fields of strawberries are found under the very shadow of the glaciers, both at Glacier Bay and at Yakutat. Potatoes are grown in most of the native villages along the coast country. No system of planting is followed, the rule being simply to bury a whole potato in the ground and when the vines appear above the surface thin out if necessary; dirt is then heaped in a soft hill with but little of the care given this crop by practical farmers. The potatoes grown here have an excellent flavour, but are inclined to be watery. The cultivation of the soil by the natives is of the most primitive character, and that by the whites is carelessly done.

Oats, barley, and wheat have been grown on the Stikeen River, where the climate is colder and dryer. The precipitation on the coast is so great that it is doubtful if

cereals could mature, except in a dry season. They grow very rapidly, and before they can mature are cut down by frosts or mould through dampness. Silos and ensilage would undoubtedly be a success here. Cattle prefer the hay of the country to that imported, and if the two are fed to them mixed, they will separate the native hay and eat it first.

As soon as the snow has disappeared in the spring, masses of herbage spring into life, and quickly blossom. Fruits rapidly mature and harvest closely follows seed-time. It is a surprising fact that not only on the coast, but also in the interior, small fruits, especially raspberries, blueberries, cranberries, and red currants everywhere abound. When the sun shines continually for twenty-four hours vegetable life is extremely rapid, notwithstanding the shortness of the season.

The capability of the soil of Alaska under a proper system of cultivation, both on the coast and in the interior, has not yet been fully demonstrated. It is hoped that agricultural experimental stations will be established by the Government in the different parts of the Territory, say—one at Chilkat, one at Kadiak, one at Sitka, and one in the interior. If this is done, intelligent and practical experiments with the various grains, roots, and grasses suitable to these latitudes can be made. In the spring of 1894, the author had the honour of appearing before the House Committee on Agriculture in support of establishing stations as above; a bill appropriating $15,000 for the purpose was unanimously reported, but it met with the usual fate of Alaskan measures—was never reached on the calendar.

In 1897, however, Congress appropriated $5000, and in 1898, $10,000 for the purpose of carrying on investigations to demonstrate the agricultural possibilities of Alaska. The results were so encouraging that on January 13, 1899, the Secretary of Agriculture transmitted a report to Congress in which he says:

> The investigations have, in my judgment, shown the desirability and feasibility of establishing agricultural experimental stations in Alaska, and I therefore recommend that definite provision be made by Congress for the maintenance of such stations in that Territory on a permanent basis, as is done elsewhere in the United States.

The illustration showing the results of experiments made in 1898 at Sitka, demonstrates that the conditions in the southern coast country are favourable for certain kinds of crops, and the same results will doubtless be obtained in the interior when investigation extends to that region.

Stock raising in Alaska, also, must first be investigated. Along the coast the chilly air of fall and winter is very trying, and cold rains, snow, sleet, and severe winds are all encountered. Experiments heretofore made have not proved entirely satisfactory. Foot-rot in sheep has interfered with this industry to some extent, but experienced stockmen, familiar with the interior of the Territory, are confident that it presents excellent opportunities for the successful raising of cattle; and believe it is possible that the great interior may, within a very few years, become a feeding-ground for tens of thousands of sheep and cattle.

OATS, BARLEY, FLAX, POTATOES, GRASSES, AND CLOVER GROWN BY THE DEPARTMENT OF AGRICULTURE AT SITKA, 1898.

The tundra moss-covered regions, suitable for reindeer grazing, prevail throughout the whole western coast country, and, in the interior, for many miles, nutritious grass and moss are everywhere found in abundance.

CHAPTER IV

MINERAL AND TIMBER

THE first discovery of gold in South-east Alaska was near Sitka, in the year 1873. It excited much interest in the small settlements throughout the south-eastern coast, and prospecting soon commenced in earnest. Miners from the old Cassiar region in British Columbia, and North-west Territory, began to push forward into Alaska, and, in the summer of 1880, gold was discovered in the vicinity of Juneau. From this date may be reckoned the developments that have reached such large proportions and drawn the attention of the whole mining interests in America to our Alaska possessions.

The little Indian settlement at the head of Gastineau Channel, which had rarely seen a white man, was soon enlivened by the tents and rude huts of the miners, which were scattered along the coast for many miles; and back into the interior went prospectors, singly, and in parties of three or more, in search of gold, as very strong indications led them to believe it lay somewhere in this vicinity.

Joseph Juneau was the first man to demonstrate the existence of gold in this district in any considerable quantities. During the early days of the settlement

THE TREADWELL LEDGE.

there seemed a disposition to bestow honour upon one Richard Harris, a partner of Juneau, by naming the first mining town after him. So the town was first called Harrisburg, subsequently named Rockwell, in honour of one of the officers of the United States steamer *Jamestown*, then located at Sitka; but the inhabitants finally determined to give it the name Juneau, which it now bears.

About the time of the first gold excitement at Juneau, the report was circulated that gold had been found on the top of a mountain about two miles across the bay, and it was learned that a miner, known in camp by the name of "French Pete," had staked off a claim. Mr. John Treadwell was at this time prospecting in the region, and investigated this location; being convinced that it would prove good property, he purchased it for the sum of $400. By untiring energy and persistent efforts he developed the property, forging his way almost inch by inch. He erected first a five-stamp mill. The result was so promising that he found little trouble in organising a company with capital sufficient to erect a one-hundred-and-twenty-stamp mill, which, seven years after the first discovery, was enlarged to two hundred and forty stamps, and the largest mill in the world was soon pounding out gold. For the past ten years there has hardly been a break in the rattle of the machinery or the booming of the heavy charges of dynamite, as they are echoed and re-echoed over the channel to the town of Juneau. Day and night during this whole period, with the exception of the Fourth of July and Christmas, it has never been known to stop. In calling this the greatest mill in the

world, we mean that it is fully equipped in every department pertaining to a well regulated and efficient working property; and although the ore is known as very low grade, estimated as yielding only $1.85 in bullion to the ton of ore, the gold output from this mine since the full two hundred and forty stamps have been in operation has reached the sum of $70,000 or $80,000 per month.

While the discovery of this rich ledge awakened a widespread interest in Alaska, it was also the means of effecting the organisation of a company which perpetrated a swindle aggregating several hundred thousand dollars. A claim adjoining the great Treadwell mine, and represented to be fully as promising, was located, after a supposed thorough and careful system of prospecting. German and English capitalists were induced to take hold of it; tunnels were run, machinery erected, and everything made ready to start the operation of a huge plant, when it was discovered that the claim had been "salted." Work stopped at once, and the mining world was startled by the announcement that the Bear's Nest mine in Alaska was a gigantic swindle. This threw cold water upon the mining development of Alaska for a period of three or four years, and no matter how promising a claim, it could not be negotiated at any price. Capitalists looking for investments were afraid to venture into Alaska. The rumour, too, became current that the Treadwell mine was a mere "blow-out," or pocket, where, by a singular freak of nature, a lot of gold had been dumped in one huge pile, and that it would never be found in paying quantities anywhere else in the country.

During this time, however, a number of men who had

THE GREAT TREADWELL MILL.

followed mining camps from the earliest days of California up through Oregon, into the Cariboo and Cassiar regions of British Columbia, finally drifted into Alaska, and believed they were yet within the mineral belt. Every dollar they could command was expended in the development of mining claims that were staked out in many places along the coast of South-eastern Alaska, and the result of their work has shown that their confidence was not misplaced. Without entering into a detailed or tedious enumeration of the different camps or claims which have been prospected successfully, it is sufficient to say that all through the South-eastern Alaska coast to the end of the inland channel or tourist route, at the very gates of the Pacific Ocean, wherein lies Alaska's capital, rich deposits of gold, silver, and galena ore are found. To the energy and steadfast belief of a few of the old settlers in Sitka is due in no small degree the credit of establishing the fact that the gold belt of California and the Western Territories was not riven asunder when it reached the coast range; and when the mountains that tower behind the capital at Sitka are made to yield up the ore that lies buried in their innermost recesses, we believe it will prove to be as rich as any yet discovered in this country.

In several places on Prince of Wales Island, and north on Annette Island, a number of excellent locations have been found where free gold is scattered among the rocks. Within the past few months prospectors have located claims, the assays of which indicate large and rich deposits of gold. The prospectors for silver, four or five years ago, met with good success, but on account of the

depreciation in value of this metal the search for it has been almost entirely abandoned.

Passing north to a point sixty miles south-east of Juneau, at Sum-Dum, is located the Bald Eagle mining claim. Before it was thoroughly prospected it was sold for many thousands of dollars. It is thought by many to contain the richest ore of any mine in Alaska, and will assay nearly one hundred dollars per ton. A ten-stamp mill has been in constant operation here for the past three years. Sum-Dum Chief and several other locations are very promising.

Northward, within four miles of Juneau, at Sheep Creek, the Silver Queen mine is located, and a thirty-stamp mill is in operation. The ore is largely impregnated with silver, yet yields from $16 to $20 per ton in gold. Other claims here show excellent prospects, and this will undoubtedly before long be the seat of active and extended operations.

Within a radius of four miles of Juneau, besides the great Treadwell mine, there are eight mills in operation.

Gold Creek, which comes down through the mountains north of Juneau, and flows into the bay in a rushing torrent of water, drains about four miles of country, and upon both sides the rugged mountains seem to be interwoven by rich ledges of gold quartz. Six stamp mills are constantly at work eight months of the year, and the coming season will see the beginning of development by the erection of mills on several other claims. Placer claims have been successfully operated there for a number of years; and at what is known as the "basin," many thousands of dollars have been spent in getting ready to

operate what is the most extensive hydraulic mine in Alaska.

Across the bay adjoining the great Treadwell mine, at what is known as the Mexican mine, a one-hundred-and-twenty-stamp mill is in operation. To the east of that is the Ready Bullion, with a two-hundred-stamp mill; these two claims are owned or controlled by the company that owns the Treadwell mine.

Towards Lynn Canal, sixty miles from Juneau, the Berner's Bay mining property shows indications that the richness and quantity of this ore will prove as great as any yet found. The forty-stamp mill here is in operation most of the year. On Admiralty Island, at Funta Bay, also, is a group of what will probably prove one of the richest mining camps in the whole of South-east Alaska. A number of ledges are found that contain rich ore and rock, which, when pounded out from any of these ledges, yield in every instance exceptionally rich deposits of gold in the bottom of the pan.

At Glacier Bay there are many strong indications of silver, the veins being easily traced along the sides of the mountains, which are entirely nude of vegetation. On Willoughby Island, in particular, there are rich galena deposits, and up to the time of the depreciation of silver extensive preparations were made to develop several of these properties. At the extreme end of Glacier Bay are very rich deposits, in which native silver has been found among galena. The owners are carefully doing their assessment work each year and waiting for silver to appreciate so as to resume operations.

Passing outside of the waters of the inland canal into

the North Pacific, rich mineral indications are found along the coast at Lituya Bay. Rich deposits of ruby and black sand stretch along the coast for many miles towards Yakutat. The quality of the gold found in this region is fine, but amalgamates readily, and is easily saved by careful sluicing. Although there has been considerable work in this region at placer mining during the past four or five years, there is quite an extensive range of country yet unworked, or, for that matter, unprospected. Practical miners who have investigated this portion of the coast believe that a rich and extensive mining section will here be opened up.

Speculation as to the probability of the Copper River country being within the gold district of Alaska has for a number of years been more or less rife among those who have been attracted to Alaska. But as yet nothing more substantial than vague reports of rich finds have materialised. The belief that the Copper River Indians would not permit prospectors to enter this territory has doubtless tended to keep this region in the background, but the past season witnessed a large influx of prospectors to that region, and before the close of the present year good reports may be expected.

From the reports of Schwatka and others who prospected this stream some years ago, there seems to be little doubt that gold exists here in considerable quantities, and it seems fair to presume that a region surrounded in all directions, as Copper River is, by gold-producing country, must also yield its share of the yellow dust.

Copper River is navigable but a few miles above its mouth for small boats only. One of the most extensive

glaciers in Alaska is encountered sixty miles above its mouth, and a few miles farther on is a canyon over twenty miles long, whose grandeur rivals the Grand Canyon of the Colorado. The water plunges through in frightful torrents as it thunders down to the sea.

An indication that the lower end of Copper River is not a practicable route for small boats is the fact that the upper-river natives do most of their trading either at stores on Valdez Inlet, an arm of Prince William Sound, or at Knik or Sushitna Rivers, emptying into Cook Inlet.

The early Russian settlers are known to have worked at placer mining at Cook Inlet, but with indifferent success. The summer of 1895 found some two hundred prospectors there. They were operating mostly on the main streams and branches of Six-Mile and Resurrection Creek which empty into Turnagain Arm, a branch of the inlet. Gold in paying quantities was soon found in several places, and the valleys were immediately staked out. Some of the claims proved to be very rich. That of the Polly Mining Company was believed at the time to be capable of yielding one hundred dollars per day for each man employed.

In the spring of 1896 a rush to this region began with great vigour. Every sailing schooner and several unseaworthy steamers were pressed into service to convey the Argonauts to the new Eldorado. About fifteen hundred men succeeded in reaching Sunrise City, located at the mouth of Six-Mile Creek. The men scattered out, some to obtain work, and others in large groups traversed the shores of Six-Mile, Mills, Link, Resurrection, Glacier, and other creeks, but found all available ground staked

off. Most of the men being inexperienced in prospecting returned in disgust to Sunrise City and on to their homes at the first opportunity. About three hundred remained over the winter, and these made good wages. The diggings yielded about four dollars to six dollars per day per man as a general average. A number of miners have been known to return with $3000 to $4000, and a few with $15,000 to $20,000.

The advantage of mining in this locality is that the cost of living is not so high as at the interior camps of Alaska. The Cook Inlet country will probably be heard of most hereafter as the scene of hydraulic operations, some very extensive plants being in the course of erection, and as many as 8000 acres of hydraulic placer ground are held by a single corporation.

For the past four or five years prospecting has been carried on at Unga, on the island of that name, and the work has been thorough and extensive. A ten-stamp mill was first erected, and two years ago the capacity increased to forty stamps, and the Alaska Commercial Company, which owns the property, feels satisfied that it has a mine which it will take many years to exhaust, and that it will prove a paying investment. This section of Alaska has every indication of rich mineral deposits, but when it is considered that the white settlements are very scarce, the means of communication with the outside world uncertain, and the cost of provisions and supplies very great, it is no wonder that so little has been done and so little known of the resources of this vast country.

Some fourteen years ago, on a branch of Fish River

which empties into Golofnin Bay, Norton Sound, indications of rich silver deposits were found. The discoverer returned to San Francisco with a few samples of the ore, the assay of which proved to be very rich. A schooner was fitted out and sent there the following season, and in due time was loaded down with the ore; but soon after leaving the bay a severe storm was encountered, and when last seen by the natives on shore she was labouring in a heavy sea, and nothing more was ever heard of her. Subsequently another vessel was fitted out and considerable ore was taken to San Francisco, which proved so rich that a company was organised, and in 1891–92 $60,000 was expended on the mine. Another large quantity of ore was shipped to San Francisco, which proved to be as rich as any heretofore taken from this mine, but on account of difficulty among the members of the company work on the property was abandoned. It is understood, however, that the quality and quantity of ore found here are sufficient to pay a handsome profit for its shipment to San Francisco, even at the present price of this metal. It is expected that operations will be resumed at this mine the coming season.

The country about Golofnin Bay, although known for several years to contain silver and galena deposits, was not, until the spring of 1898, supposed to contain placer gold diggings. In the fall of 1897, four men from San Francisco, equipped with a year's supply of provisions, arrived there, and went up the Neukluk River, a branch of Fish River, about sixty-five miles from Golofnin Bay. They commenced prospecting in the early spring, and found, on what they named Ophir Creek, rich deposits of

placer gold. On a stream four miles distant, which was named Melsing Creek after one of the party, rich diggings were also found.

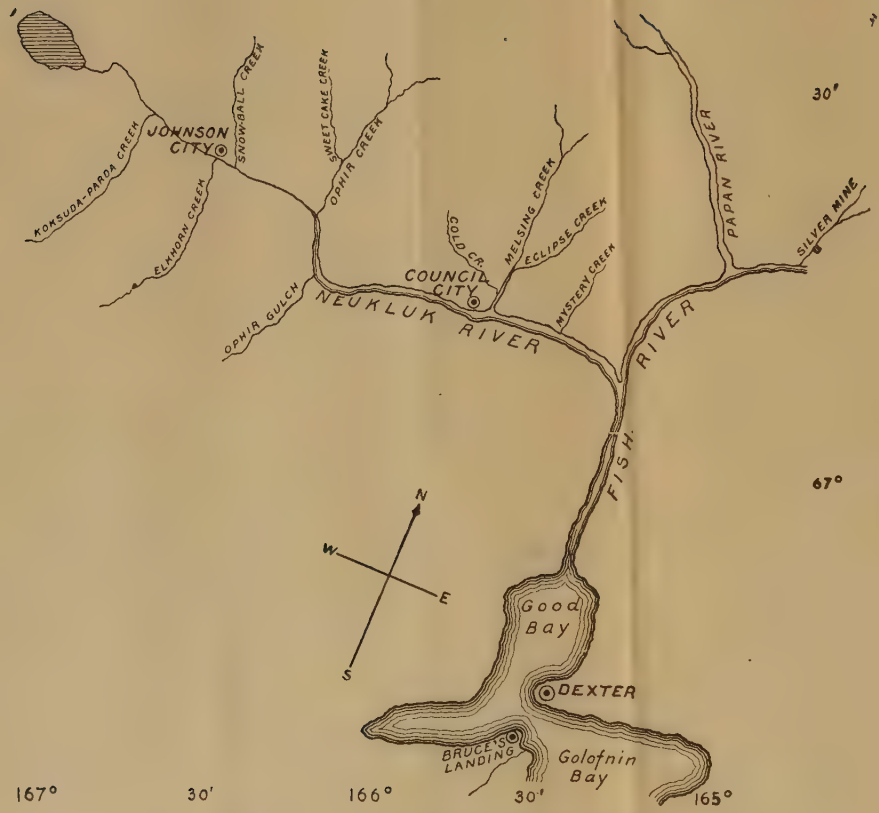
On account of high water, they were not able to reach bedrock during the past summer, but from the loose surface gravel over a dollar in gold was taken out in many places from a single pan of dirt.

They continued their prospecting during the season, following the river to its source, and many creeks were found as rich as the two referred to above.

The news of this discovery quickly spread to St. Michaels, and by the first of September, 1898, forty or fifty men had arrived at this camp.

Among the number of companies that were organised in Chicago for the purpose of engaging in mining in Alaska, in the spring of 1898, was one known as the Dusty Diamond Company. Fifty members comprised the company, and fifty thousand dollars was invested in a river boat, dredging and mining machinery, and supplies; thus equipped, they started for some point to be determined in the future. When about to leave St. Michaels during August last, reports were rife of rich strikes on the Neukluk River. At once they changed their course and started for the new diggings.

A committee of two members of this company was sent ahead in a small boat, the others to follow with supplies. The author, who had heard through Eskimos one hundred and fifty miles farther north that white men "had found money in the ground," started at once for this camp, reaching there about the same time as the representatives of the company.



GOLOFNIN BAY AND NEUKLUK RIVER GOLD-FIELDS.

One of the claims on Ophir Creek owned by the four men who discovered gold in this country was prospected by us jointly, and as high as $1.20 to the pan was found in the bed of the creek. Negotiations were effected by the company to work this claim on shares, and work was immediately started to turn the channel of the creek, and in less than two months $48,000 is said to have been taken from this claim.

Mining in this country, as in the Klondike, will have to be done principally in the winter on account of the quantity of water that stands in the depressions among the tundra, and the many streams which are everywhere found, making it impossible to reach bedrock except when the ground is frozen. The burning process will be resorted to and the pay dirt brought to the surface and sluiced after the frost is out in the spring.

The country drained by the Neukluk River is, from its general appearance and what is already known of its mineral deposits, one of the most promising camps yet found in Alaska. It is an ideal mining country, too, for it can be reached as quickly from civilisation as St. Michaels, and in summer is a veritable garden. Vegetation is everywhere prolific, flowers of many varieties and tints are found among the Arctic moss, grasses of different varieties abound among the alder and willow bushes, and cranberries, salmon berries, and huckleberries of rare flavour grow spontaneously among the tundra scattered over these Arctic plains. Here and there along the banks of the Neukluk and many of its tributaries, groves of spruce and hemlock afford abundant material for fuel, and salmon abound in the streams in vast quantities.

Lieutenant Stoney, who was sent by the Government some years ago to explore the region of Kotzebue Sound, spent two or three years there, and found gold along the Selawik and Buckland Rivers.

In the summer of 1895, two miners from the Yukon made their way to the Koyukuk River, following down this stream to the headwaters of the Selawik River which they prospected to its mouth. It was late in the season when they reached the Selawik and their investigations were hurriedly made. They found fine gold in every instance.

In the summer of 1896, the author obtained coarse gold to the amount of $22 from two different Eskimos near the mouth of the Selawik River, which they found on that stream. In the summer of 1897, Eskimos brought to the coast samples of quartz showing free gold, and Captain Coghlan, of the steam whaling ship *Thrasher*, reported that Eskimos came aboard his vessel shortly after, bringing gold from the same region.

The report brought to San Francisco by Captain Coghlan gave rise during the past year to widespread interest in that section of Alaska, and several expeditions reached Kotzebue Sound about the middle of July, and over six hundred men started up the Kowak and Selawik Rivers. The season was anything but favourable for prospecting, high water delaying their progress up the streams, and many, becoming discouraged and disheartened, returned to their homes with nothing but their experience. The few that remained had barely time to reach the upper-river region before winter set in, and no reliable reports can be expected from this section until

the coming summer. There is no doubt that gold exists as far north as the headwaters of these two streams, but it remains for the future to determine to what extent.

In almost every mining district of Alaska, black sand is found in greater or less quantities, and this is particularly true of the interior. Black sand is generally considered a sign of good diggings, but in many instances it is found in such quantities as to interfere with sluicing. On account of its great specific gravity, it settles among the riffles of the sluice-box, and when the clean-up is made it is very hard to separate it from the gold, even with careful panning.

The tailings on many claims contain large quantities of black sand, and not until recently was it supposed to have any value.

News comes from Dawson, under date of December 5, 1898, that a metallurgist of national prominence made a careful assay of some black sand taken from a sluice-box where it had settled among the riffles, and it was found to contain a large per cent. of platinum. In one ton of the black sand there were ninety-six ounces of platinum, which at a value of $8 per ounce gave the supposed black sand a value of $768. To secure the ton of black sand, however, one thousand tons of gravel had to be washed, but as this could be done at the expense of a few cents a yard, mining for platinum could be carried on at a great profit without considering the value of the gold found in the gravel, which in the sample ton in the above assay yielded $102 to the ton.

If this report is reliable, and it seems to be, for Consul McCook stationed at Dawson reported the result as above

to the Government at Washington, locations heretofore abandoned on account of excessive deposits of black sand may be reopened and yield handsome dividends.

South-eastern Alaska is well timbered, the prevailing varieties being spruce and hemlock, red and yellow cedar. The spruce and hemlock found here are usually of large size, often a hundred feet high and six and eight feet in diameter. The yellow cedar is a beautiful wood, susceptible of high polish, and is especially adapted for manufacture of furniture. The yellow cedar grows many feet in height, straight and clear, without any defect whatsoever. The wood, when polished, presents a beautiful yellowish hue, and is hard and compact though easily worked. Little is known of the extent of the yellow cedar, but no doubt explorations will discover considerable areas of this valuable wood. From Sitka westward the forests become scrubby and the timber small in size, and entirely disappear twenty miles west of there, but alder and willow are found in many places. The timber line extends to a height of about fifteen hundred feet. The timber along the lower portion of the Yukon is composed principally of willow, alder, and cottonwood. Towards Norton Sound it grows to a fair size. Spruce is also found, as a rule, on most streams emptying into the Yukon River and Bering Sea. The rivers entering the Arctic as far as sixty-seven degrees north latitude are more or less timbered with the same variety. Along Wood River there are some fine groves of large spruce timber, and back in the interior and along the banks of the rivers and on level stretches of country fir timber is also found to considerable extent. Dwarf spruce, cotton-

wood, alder, and willow are also found in the Nushagak and Kuskoquim regions. The willow usually found along the coast west of Mt. St. Elias is scrubby, but in the moraines of that mountain and along the delta of the Copper River it grows to a height of fifteen or twenty feet. In the vicinity of the Noatuk River, in sixty-seven degrees north latitude, spruce, birch, and cottonwood are found of a stunted growth, fit only for firewood and the construction of log houses.

In the Yukon country, from Five Fingers all the way to Koserefski Mission, on the Yukon, the timber growing along the banks is principally willow, alder, and spruce, the latter being the prevailing variety. It is generally scrubby, but many good-sized trees are found. The islands in the river from Five Fingers to the mouth of the Yukon are generally well timbered, the larger islands being better wooded than the mainland.

The coal resources of Alaska are lying dormant because the time does not seem to have arrived for the necessity of the opening up of the mines. A number of small veins or seams have been found on several of the islands in the south-eastern Alaskan country. Those which perhaps so far have attracted the most attention are on Chicagoff Island near Killisnoo, where every indication promises an extensive deposit. All the coal found in Alaska is bituminous and of a very good quality. Deposits have been found on the headwaters of the Chilkat River, Lituya Bay, Cook Inlet, Unga Island, and Port Mollar. The most extensive coal fields or deposits are in the Cook Inlet country, cropping out on the beaches and along many of the streams. Unga Island has three

distinct veins of coal extending a distance of two miles upon the sides of the mountains, each of them being several feet thick. Some work has been done here within the last few years and Government vessels have experimented with the coal, but find it contains a considerable amount of ashes and clinker. Doubtless when a greater depth is reached it will improve in quality. North of Unga Island, about ten miles inland from Stepovak Bay, is a trail or portage about ten miles long leading to Herendeen Bay, at Port Mollar, on the Bering Sea side. An excellent quality of coal is found here in large quantities. The Alaska Commercial Company, the principal owner of the mine, has shipped considerable coal to its station at Unalaska; and its quality, both for steaming and house purposes, is found to be superior to that found at Unga.

Extensive coal fields exist at Cape Lisburne, on the Arctic side, extending for thirty or forty miles parallel with the coast and for a number of miles back into the interior. It is of a lignite character, and the Government vessels *Corwin* and *Thetis* have taken coal for steaming purposes from here, and have found an excess of ash and clinker, which seems to be the general fault with all coal thus far discovered in Alaska. Strong indications of petroleum are found back from the coast a few miles, in this Arctic region, and also between Icy Bay and Cape Yaktaga. On the North Pacific coast, west of Yakutat Bay, there are extensive deposits or indications of petroleum. Practically all the coal used by vessels navigating Alaskan waters and in the quartz mills and towns of Alaska is brought from the Puget Sound country and British Columbia. It is bought at the mines for about

three dollars per ton, and the expense of shipping to the Southern Alaska ports is five or six dollars per ton. The expense of opening up a coal mine is so great that until there is a large demand in Alaska it is doubtful if any of the mines will be worked.

CHAPTER V

FISHERIES

THE fish industry of Alaska is destined to assume immense proportions.

Upon the authority of Professor Bean, of the United States Fish Commission, more than one hundred varieties of fish are found in the Alaskan waters. Salmon, ranking first in importance, is found in great numbers in the streams from the lower extremity of South-east Alaska to the Arctic Ocean. The most favoured varieties are those known as the red or silver salmon, weighing from eight to twelve or fifteen pounds each, and the king salmon, often weighing as high as fifty pounds. The latter variety is found only in a few localities in South-east Alaska and in the Yukon, many miles above its mouth. It is said that specimens have been caught in this river weighing over one hundred and twenty pounds.

The first salmon cannery in Alaska was erected in 1878,

and at the present time there are thirty-six; most of them are in operation each season.

The growth of this industry was extremely rapid, canneries being constructed at a cost of from fifty thousand to one hundred and twenty thousand dollars each. Enormous profits gave rise to much speculation, but it was found that the supply of canned salmon when the canneries were run at their fullest capacity, was too great for the demand.

In 1892, a combination or trust was formed, which resulted in closing down several canneries, but the owners came into a general pool and received a *pro rata* interest in the proceeds arising from the packs of the canneries in operation. Some of these canneries have a capacity of from forty thousand to sixty thousand cases each year, and when it is understood that a single case contains four dozen one-pound cans, and that in the year 1898 the combined pack of all the canneries was over 950,000 cases, an idea can be formed of the vast number of salmon caught.

It is unusual for more than one establishment to be found on any salmon stream, but at Karluk, on the northwest side of Kadiak Island, on a small stream not exceeding sixty feet wide at its mouth, there are five canneries, and the supply of salmon seems inexhaustible. The river at its mouth, and for a long distance out into the salt water, during the spawning season, when the salmon are on their way to the lakes above for the purpose of depositing their eggs, seems to be fairly swarming with these fish. They fill the water to such extent as to almost dam it up, and those below, in their eagerness to ascend the river,

crowd those on top so that their fins and part of their body are exposed to view. The first season the author beheld the sight, he thought an appropriate name for this stream would be the " River of Life."

While it will not be fair to charge these canning companies with being directly antagonistic to the settlement and development of Alaska, it is true that their influence has always been exerted in that direction. It has been the practice of these corporations to bring all their help from outside the territory. Not only are their fishermen brought from the Pacific coast States, but the entire canning force—and each establishment employs from forty to seventy-five men—are Chinamen. There are two exceptions, however, where the natives do most of the work of canning salmon, namely, at Klawak and New Metlakahtla.

It requires no special skill to catch salmon, yet it has been the custom of these canneries to bring white men into the country in the spring for the purpose, and take them back to their home when the fishing season ended. It has been also the practice to pay the men for their season's work after they have reached their homes, thus not only taking the product of the streams away without paying a dollar for it, but depriving the Territory of the benefit resulting from the labour therein, which would contribute in no small way to the support and upbuilding of the country. If these industries would employ white men altogether, it would bring into the country many who might identify themselves with it in some way during the months the canneries are idle. Again, in the packing of salted salmon, the interests of the country are

KARLUK SAND SPIT AND "RIVER OF LIFE."

not considered. Fully seven thousand barrels, each weighing two hundred pounds, are prepared for the market each year.

In the preparation of salmon an enormous quantity of boxes are used, but the sawmills of the Territory are not patronised; for the material is imported and the boxes are put together as they are needed, though they might be manufactured in the country of as good quality of timber at less cost than they are furnished under the present system.

South-east Alaska is covered with a dense growth of spruce, hemlock, and cedar, which should be a source of income and a means of employment for a large number of men, but it is lying dormant because one of the great industries of the Territory does not deem it proper to encourage manufactures within its borders.

The liberty these canneries take in catching fish without restriction is a feature of this subject which is liable to be of great importance to the people who will in time inhabit Alaska, as well as to the many thousands of natives, who have from the earliest periods subsisted upon fish food. Restriction should have been imposed upon them a number of years ago. Some of the canneries have erected traps at the mouths of the different streams, and few salmon are permitted to escape. It will not be difficult to understand, therefore, that in a few years streams thus obstructed must become exhausted, unless some means are adopted to prevent this wholesale destruction.

The Alaskan codfish industry promises to become extensive in the near future. Cod are found in large quanti-

ties along the Aleutian chain of islands, as far west as the Alexandria Archipelago, and in a general way they may be said to exist along the whole southern coast of Alaska.

In the vicinity of the Kadiak group of islands, and still farther south to the Simeonoff, and at the Shumagin group, about the islands of Magipopf and Unga, cod are found in great abundance. In Bering Sea, to the east of Unimak Pass, and towards the lower Siberian shore, they are also found in large quantities. Two San Francisco firms are the only parties extensively engaged in the catching and shipment of cod at the present time, and they seem to have developed the business sufficiently to meet the demand, for they have a number of vessels each season employed in the traffic. Two companies from Puget Sound are also engaged in cod-fishing in Bering Sea, but as yet to a very limited extent.

The manner of fishing is usually from dories. The fishermen are paid at the rate of $25 for every thousand fish caught, and they are to measure at least twenty-six inches in length. If smaller fish are accepted, say measuring from twenty-four to twenty-six, two fish are counted as one. So it will be seen that these fish are caught with considerable ease and in great quantities in order to pay the fishermen fifty dollars per month, the smallest amount they expect to make from the cruise.

Next in importance to the cod ranks the halibut, which is found in vast quantities in the waters of the inland channel, among the more shallow waters of the North Pacific, and in some portions of Bering Sea. They often weigh two hundred or more pounds, and one of the

pleasures of tourists is catching these fish from the deck of the steamer while lying at some station.

The halibut is a staple article of diet, both fresh and dried, with the natives, and it is said that the Alaskan halibut will compare favourably with, if they do not excel, those caught on the Atlantic coast.

A fishing concern in Sitka has recently put up a limited amount of smoked halibut, and it has proven a most delicious article of food. Very little effort has yet been made to force the sale, but the curing of halibut in this way may ultimately prove one of the leading industries of this country.

There are immense schools of herring in most of the inland waters or estuaries of Alaska, and they, too, form an important element of the food supply of the natives. The greatest supply is found at Killisnoo, on the west side of Admiralty Island, where, some fourteen years ago, the largest fish-oil plant in the world was erected. Herring are caught by means of seines, and a single haul of twenty-five hundred barrels has been taken. After the oil is pressed from the fish, the refuse is put up as a fertiliser and shipped principally to the Sandwich Islands.

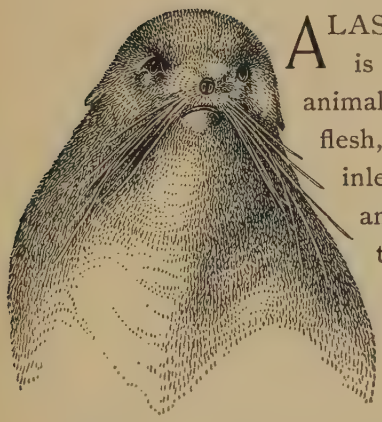
The oolakon, or candle-fish, are also found in the inland channels, and in some localities of the North Pacific coast. They are a species of smelt, and are about eight inches long and almost round. They are so oily that, after being dried, they can be lighted and will burn completely up, throwing a glimmer like a candle, as their name implies. The natives use these fish in greater numbers perhaps than any other variety. When boiled, they have a delicious flavour, and are tender and delight-

fully sweet. The oil is considered a rare delicacy by the natives, and quite an industry is carried on with those living in localities far remote from this fish supply.

Most of the varieties of fish found on the Pacific coast, together with clams, mussels, and crabs, are found in great abundance in all the waters of Alaska, but oysters do not exist, probably on account of the low temperature of the water.

CHAPTER VI

LAND AND SEA ANIMALS



ALASKA, in a peculiar sense, is the home of fur-bearing animals. It abounds in "fish, flesh, and fowl." The bays and inlets teem with aquatic birds and animals, and the land is the home of the bear, wolf, deer, cariboo, moose, fox, wolverine, and many others widely distributed.

Early in the history of the Russian occupancy of Alaska, the sea-otter-skin traffic, which for a long time had no competitor, began to find a rival of magnitude in the fur-seal trade.

In 1787, the year succeeding the discovery of the Pribilof group of islands, over five hundred thousand fur seals were killed by Russian hunters, and the figures have even been placed as high as two millions. Whether the latter figures are exaggerated or not, it is true that twenty years from that time the fur seal had almost entirely disappeared from these islands. More than half of the skins taken on the Pribilof Islands were thrown

into the sea in an advanced stage of decomposition, because of careless curing, and the waters were so poisoned as to drive away the seals for several successive seasons.

Chinese merchants trading on the Siberian frontier placed a high value upon these skins, and frequently refused to exchange teas with the Russian traders for any other commodity. When the Russian-American Company obtained exclusive control of the Russian possessions in America, the fur seals were so nearly destroyed that for a time the new company's traffic was quite insignificant. A prompt and efficient remedy was at once applied, by prohibiting the killing of seals for five years, from 1807 to 1812. At the expiration of that time the shy animals had returned, sufficiently recuperated to afford a continuous and reliable source of revenue.

The art of plucking and dyeing seal skins was invented by the Chinese. The exact date when this process was adopted by the English is unknown, but it occurred some time during the first half of the nineteenth century, as a regular demand for seal skins can be traced from that time. Shipments directly to New York and London were inaugurated about 1850, and these shipments continued at the rate of from twenty thousand to sixty thousand skins per annum, until the transfer of the Russian possessions to the United States, which occurred in 1867.

When the question of acquiring Russian America was discussed in Congress, no particular stress was laid upon the prospective value of the fur-seal industry, though it was known to be one of the principal sources of revenue to the Russian-American Company. During the last decade of Russian ownership, the agents in charge of the

FUR SEAL ROOKERY, ST. PAUL ISLAND.

Pribilof Islands reported each year that the fur seals were increasing in such numbers that the rookeries were crowded beyond their capacity. Each report was accompanied by urgent requests to be permitted to kill more seals, to make room for the increasing millions. The fact that it was possible to continue the slaughter at the rate of one hundred thousand per annum for twenty years after our purchase, seems to prove that when the United States acquired these valuable islands the industry was in as prosperous condition as when discovered by Pribilof in 1786.

The radical restrictions of late years limiting the number of seals to be killed annually to one hundred thousand were based upon careful observations and estimates; but the indiscriminate slaughter inaugurated within the past few years by sealing vessels from British Columbia, which encountered the migrating animals on their way to the breeding-grounds, and killed males and females alike, has fully justified the still more radical restrictions since made.

The only hauling or breeding grounds of the fur seal known in Alaska are upon the islands of St. Paul and St. George. On the Otter Islands these animals occasionally haul up, but do not breed. The Pacific and Antarctic Oceans have been scoured by sealers and emissaries of trading firms, in search of supposed "winter homes" of the fur seal; but at the present day the fact seems to be established that, after leaving their confined breeding-places, they scatter over the broad Pacific to locations where extensive elevations of the bottom of the sea enable them to subsist upon fish until the instinct of

reproduction calls them again from all directions to their common rendezvous.

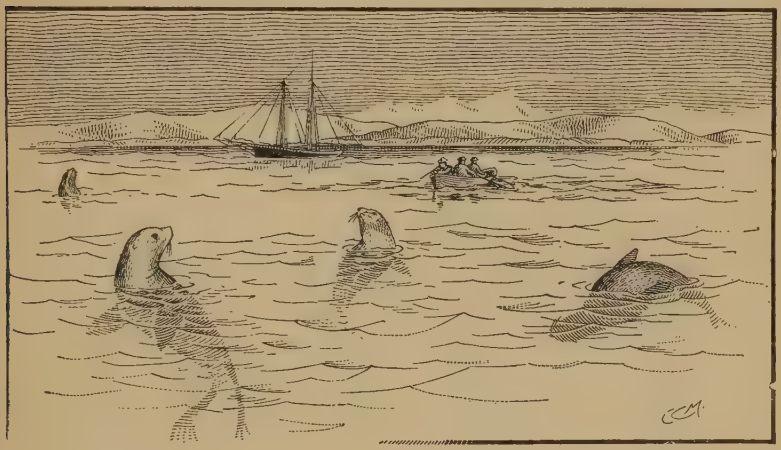
The killing of fur seals is done altogether on land, and has been reduced, through long observation and practice, to a science. Under the present lease the company has been restricted to kill only 7500 each year until 1896, when the number was increased to 30,000, and in 1897 and 1898 only about 20,000 were killed each year. The only individuals permitted to do the work are the able-bodied Aleutian hunters now living on the islands, whose ancestors were brought from the Aleutian Islands by the Russian Government. Life-long practice has made them expert in using their huge clubs and sharp skinning knives, both instruments being manufactured expressly for this purpose. These men are proud of their skill as sealers, and will not demean themselves by doing any other kind of work.

The labour connected with the killing of seals may be divided into two distinct processes: the separation of the seals of a certain age and size from the main body and their removal to the killing ground; and the final process, of making another sorting among the select, and killing and skinning them. A damp, cloudy day is especially desirable for both driving and killing.

The young male seals, to the age of four years, invariably segregate themselves in the rear of the so-called rookeries—or groups of families—that line the seashore; and the experienced native crawls in between the families and these "bachelors." This is accomplished without difficulty, and the animals are driven inland, in droves of from one to three thousand each, very slowly, lest the

KILLING FUR SEAL, ST. PAUL ISLAND.

animals become overheated and injure the quality of their skins. When the slaughter ground is reached, twenty or thirty seals are separated from their fellows, in quick succession surrounded by their executioners armed with clubs, and the killing begins. The experienced eye of the Aleut quickly discovers if the seal is either under or above the specified age or size, and if such an one be



found, he is dismissed with a gentle tap on the nose, and allowed to make his way to the shore and escape.

The men with clubs proceed from one group to another, striking the seals violently on the head to stun them. Others immediately follow with long, sharp knives, and stab each stunned seal to the heart, to insure immediate death. Then the skinners come, and with astonishing rapidity divest the carcasses of their rich and valuable covering, leaving, however, the head and flippers intact. Carts, drawn by mules, follow the skinners, and into these the pelts are thrown to be carried away to the salt-

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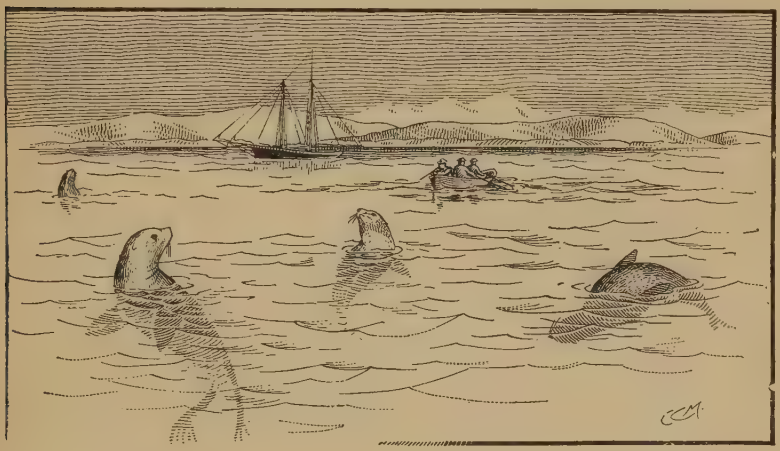

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houses, and salted down for the time being like fish in barrels. Later, after pressure is applied, they are rolled in bundles of two each, with the fur inside, securely strapped, and are then ready for shipment. The wives and daughters of the sealers linger around the bloody field and reap a rich harvest of luscious blubber, carrying it away on their heads and shoulders, the oil dripping down over their faces and garments.

The conference over the fur-seal controversy between Great Britain and the United States in Paris, in 1893, resulted disastrously to us. The contention made by the United States that Bering Sea was a closed sea, and therefore our private water, was set aside by this commission, and we had to yield the point that we could not protect the seals in the open water of the sea, without other nations joining with us.

Accordingly, a limit of sixty miles from the islands was established, and any vessel detected hunting seals within this district was confiscated. The hunting of seals was restricted to spears, and vessels caught with firearms of any description aboard were seized.

The United States Government for four years prior to 1898 had six revenue cutters patrolling the sea each summer, while Great Britain had been represented most of the time by a single man-of-war.

From the first year that these regulations were adopted, the number of American sealers has decreased and those of Great Britain increased, so that nine-tenths of the vessels engaged in sealing in 1897 sailed under the flag of Great Britain.

As a matter of fact, England derived the most benefit

from this industry. The seals killed at the seal islands are shipped to London, where they are dressed and tanned by what is supposed to be a secret process. Nine-tenths of all skins taken in the Pacific Ocean and Bering Sea by pelagic sealers were shipped to London and sold; so that, practically, England is the only country deriving any benefit from these islands so far as concerns the skin in the raw state.

Ever since the question arose as to what should be done to protect the seals from utter extermination, there has been no doubt that vigorous measures should be adopted to protect them. British Columbia alone has taken the opposite view, and the secret of her opposition to this measure has been that it was an industry engaged in largely by Canadians; and this opposition has wielded great influence with the British Government, otherwise they would doubtless have joined with the United States in absolutely suppressing pelagic sealing immediately after the decision of the Paris Tribunal.

Three years ago, the late Mr. Dingley of Maine introduced a bill in the House which passed that body but never reached the Senate for action. It provided that if England did not at once join with the United States to suppress the killing of seals in the open waters of Bering Sea and the Pacific, the United States would proceed to kill off every seal upon the islands, and this would have resulted in their utter and complete extermination.

Many seals are caught upon the Japan coast in the spring of the year, and Russia owns an island in West Bering Sea where seals go annually to breed.

The lease of the fur-seal islands now held by the North

American Commercial Company will not expire until 1910, during which time this monopoly will undoubtedly make millions of dollars.

In the spring of 1898 Congress passed a law absolutely prohibiting the importation into the United States of raw or dressed fur-seal skins. This has had the effect of almost entirely destroying the practice of hunting seals by both the American and British vessels, but the price of fur-seal garments has as yet advanced but little as a result of this prohibitive measure. This law will certainly result in an increase of the fur-seal animals, and it is to be hoped that it will not be repealed until the United States and Great Britain can mutually agree upon some measure that will prevent the extinction of this beautiful animal, which was so seriously threatened before the adoption of this stringent measure.

Whether one effect of this law will be to destroy the popular demand for fur-seal garments in the United States, where they are more used than in any other country, remains to be seen, but in all probability it will always remain the choice fur, as it has no other rival in beauty and comfort, unless it be the sable, which is too scarce and too expensive to be universally popular.

The sea otter seems to exist chiefly on a line parallel with the Japanese current, from the coast of Japan along the Kurile Islands to the coast of Kamtchatka, and thence westward along the Aleutian chain, the southward side of the Alaska peninsula, the estuaries of Cook Inlet and Prince William Sound, thence eastward and southward along the Alaska coast, the Alexander Archipelago, British Columbia, Washington, and Oregon. But it is be-

coming scarcer each year, owing to the recklessness with which it has been hunted and killed. Three distinct times during the existence of the Russian-American Company their agents in the Kurile Islands have reported the sea otter extinct, but each time it has appeared again, after a few years' respite from hunting. They change from one feeding ground to another. At the present date, about the Kurile Islands and Kamtchatka, few are killed annually, and Attu Island, and several smaller islands, which formerly furnished many hundred sea-otter skins every year, now produce less than a dozen skins in the same time. The outlying reefs of Atka, also, once furnished an abundant supply of these skins, but are now entirely deserted. From the island of Unimak eastward, however, sea otter has become more plentiful, and within a radius of fifty miles of the island about five hundred are taken annually. But the hunting is carried on recklessly by whites and natives alike, with firearms, in direct violation of the law. They are still found in the waters of the Kadiak Archipelago, as well as in the southern portion of Cook Inlet.

The land otter is one of the most widely distributed fur-bearing animals in Alaska, unless we except the fox. The land otter is found on the whole coast of Alaska, from the southern boundary to Norton Sound. Within the Arctic circle it is confined to the upper portions of the rivers emptying into Kotzebue Sound and the Arctic Ocean; and it is also found along the whole course of the Yukon, and, so far as known, in nearly all parts of the Alaska peninsula, the Kadiak Archipelago, and the coast from Mt. St. Elias to the southern boundary.

There has been a great decline, both in the supply and demand for beaver, during the last fifty years. Once it was the most important among the fur-bearing animals of continental Alaska. This animal has frequently suffered from the excessive and prolonged cold of the Arctic winter, in the interior country north of Cook Inlet and the Yukon. The ice in the river and lakes has formed so rapidly, and to such a thickness at times, that the animals found it impossible to keep open the approaches to their dwellings under water, and died of starvation before spring. Hundreds of putrefying carcasses have been found by natives in the beaver lodges. Old beaver-dams scattered over the continental portion of Alaska testify to the former abundance of the animal. Though now hundreds are taken where formerly thousands were captured, and notwithstanding the demand has lessened, the number of animals has not increased.

When the Hudson Bay Company were lords of the entire North-west American continent, the skins of these animals represented the value of an English shilling, and were used and accepted as common currency. The present price of a beaver skin of average size, in Alaska, is from six to twelve dollars. The Indians of the interior and a few of the Eskimo tribes look upon the flesh of the beaver as a great delicacy. It is a dish which they always set before honoured guests, and is also much used in festivities. The long incisors of the beaver are made into chisels, small adzes, and other tools, for the working of wood and bone.

The brown bear, a huge, shaggy animal, is found in nearly every section of the Territory. The northern limit

of its habitat is about sixty-seven degrees north latitude. It prefers an open, swampy country to the timber. The brown bear is an expert fisher, and during the salmon season it frequents all the rivers and their tributaries emptying into Bering Sea and the North Pacific. At the end of the annual salmon run, it retreats to the tundra, where berries and small game are plentiful. This animal has been called the road-maker of Alaska, for not only are swampy plains, leading to the easiest fording places of streams and rivers, intersected by his paths, but the hills and ridges of mountains are also marked by his footsteps. The largest specimens are found at Cook Inlet. On its west side they can be seen in herds of twenty-five or thirty. From the fact that their skins are not very valuable, and also that they are of fierce disposition, they are little hunted. Before attempting to kill one, the native hunter invariably addresses a few complimentary remarks to his intended victim.

The Thlinkits have a tradition, told them by the shamans, that the brown bear is a man who has assumed the shape of an animal. The tradition relates that this secret of nature first became known through the daughter of a chief. The girl went into the woods to gather berries, and incautiously spoke in terms of ridicule of a bear, whose traces she observed in her path. In punishment for her levity, she was decoyed into the bear's lair and there compelled to marry him and assume the form of a bear herself. After her husband and her ursine child had been killed by her Thlinkit brethren, she returned to her home in her former shape and related her adventures. In deference to this generally received superstí-

tion, when the natives run across bear tracks in the woods, they immediately say the most charming and complimentary things of bears in general, and their visitor in particular.

The black bear generally confines himself to timber and mountain regions. He exists on a few islands in Prince William Sound, and on Kadiak Island, and is found on rivers emptying into the Arctic, and is plentiful southward to the valley of the Yukon. The skins command high prices, and are increasing in value yearly. The animals are shy, and great skill and patience are required to hunt them. Like the brown bear, they are expert fishers, wading into the streams and, as a salmon comes along, they strike with dextrous paw and land their fish on the bank, where it furnishes a toothsome feast. Unlike the brown bear, however, the natives do not fear them in the least. The glossiest and largest of black-bear skins come from the St. Elias Alpine range and Prince William Sound, but the black bear never attains the size of his brown relative.

The red fox is found in every section of Alaska. In fact, this animal seems omnipresent. It varies in size and in the quality of its fur from a specimen as large as the high-priced Siberian fire-fox, to the small, yellow-tinged creature that rambles furtively over the rocky islands of the Aleutian chain. Like a poor relation, he mingles persistently with his aristocratic cousins, the black and silver foxes, always managing in course of time to deteriorate the blood and tarnish the coat of his richer relative. His diet is heterogeneous, fish, flesh, and fowl being equally satisfactory to his taste; nor does he dis-

dain shellfish, mussels, or the eggs of aquatic birds. He is rarely hunted or trapped by the natives, from the fact that his fur is cheap, and they never eat his flesh, except when driven to it from famine.

The king of the vulpine family is the black fox. In the mountain fastnesses of the interior, and on the head-waters of the large rivers he is found in his prime. He is of large size, with long, soft, silky fur. He is also found along the boundaries between Alaska and British Columbia, in the country of the Chilkats, the Takus, the upper Copper River, upper Yukon, Tanana, and Kuskoquim Rivers. In the last named regions, skins may be bought from ten to fifteen dollars each, but in South-east Alaska, where competition is strong, eighty and one hundred dollars each is frequently paid for them. Black foxes are also found on the seacoast, on the shores of Norton Sound, in the interior of Kotzebue Sound, along the Yukon, and on the Colville River. They are quite plentiful on Kadiak Island and most of the Aleutian Islands; but they have been transported by man's agency to many of these points.

Along the south-western coast there are many islands, removed from the shore a few miles, uninhabited and never visited by natives. In a number of instances white men have gathered a few pairs of blue, black, and silver foxes, when young, from the natives, and taken them to these islands and turned them adrift. They arrange with the natives to carry food to them at stated periods, and they become in a measure tame. They increase very rapidly, and in three or four years become a source of profitable industry for the projectors of the enterprise.

On the seal islands the propagation of the blue fox has been carried on under the protection of the Government for some years, only a certain number being killed each year. The blue fox was first discovered on the Aleutian Islands in 1741. It has been protected against intermixture with other and inferior foxes, and the skins are of the finest quality and command a price ranging from fifteen to twenty dollars in the market.

The cross fox when killed in its prime is one of the prettiest of the fox family. Its fur is long and thick and often resembles in appearance the silver-grey fox. The market value is from eight to fifteen dollars.

Almost the only high-priced fur found in the Yukon basin is the silver fox, and it forms a most important element in the trade of that region.

The white fox is found along the continental coast of Alaska, from the mouth of the Kuskoquim River northward to Point Barrow. Its fur is snowy white, soft and long, but is not durable; hence it does not command a high price in the market. The white fox is fearless, and will enter villages and dwellings in search of food, or out of mere curiosity. It will eat anything to satisfy hunger, and in the depth of winter the natives find it unsafe to leave any article of clothing, dog harness, or boat material where these thieving little animals can find them.

The marten, usually called by fur dealers Hudson Bay sable, are very numerous in the interior and in Northern Alaska. They are about the same size and shape as the mink, but the fur is much longer and of a finer texture. They are usually of a lightish brown or yellow tint, but are sometimes found very dark, and occasionally one is

found almost black; there being little difference between it and the much-prized Russian sable.

Mink are plentiful on the coast, but not on the islands, excepting those of Prince William Sound. They are also abundant on the Yukon and many other rivers. The spell of fashion has made this skin of but little value; but within the past two years it has become more popular, and in a few years it may be as fashionable as when, a score or more years ago, it was the pride of every woman to possess a cape made from the fur of these pretty animals.

The polar bear is found only on the Arctic coast where there are large bodies of ice. With the moving ice fields he enters and leaves the waters of Bering Sea. From fifty to one hundred of these animals are killed yearly, principally by the natives. It sometimes happens, when a whale that has been struck by a harpoon and not killed in time dies and is washed ashore, the polar bears will come from all directions, drawn by the scent of the carcass, and feed on the blubber. Natives then come upon them with their crude weapons and slay them in large numbers.

The lynx is found in the wooded mountains, and wolves, both grey and white, are plentiful, but rarely killed.

Muskrats abound all over Alaska, and rabbits and marmots are killed for their flesh; the natives use the skins of the former for clothing. Especially is this true in the Arctic region, as the reindeer, the animal that formerly supplied them with skins for clothing, are fast disappearing.

Wolverines are plentiful on the upper Yukon and the lake sections. The skins are rarely exported, as a ready market is found among the inhabitants of the coast region of the Yukon and Kuskoquim, who prefer this shaggy, piebald fur to any other trimming for their wearing apparel. This skin is very highly prized among the Eskimo, for it serves as an excellent protection for their faces against the severe blasts, when sewed around their hoods.

Deer are very abundant, especially in South-east Alaska, where, in winter, they are recklessly slaughtered for their hides, when driven to the coast by long-continued snow. So reckless has this slaughter become that there is great danger of their being exterminated, unless Congress passes a law prohibiting the exportation of deer hides from the Territory for a number of years. Deer form a large supply of food for the natives of South-east Alaska; and the wanton manner in which they are killed bids fair to eliminate a food product of vast importance. They are hunted, in the rutting season, by a call made from a blade of grass placed between two strips of wood, which produces a very clever imitation of the cry of the deer. This call leads them to the ambushed hunter; and so deceptive is it that it is not unusual to get a second shot should the first fail. The wolves play great havoc with the deer; and it is remarkable that they exist in such numbers among so many ruthless enemies.

Moose, cariboo, and deer are found in the upper Yukon country, and especially on the White River moose are reported by the natives to be plentiful and of large size.

The deer of the Arctic and subarctic regions have been confounded with the reindeer of other localities. While

they certainly belong to the same family, they are what is called the barren ground cariboo, which differs from the upland cariboo and domesticated reindeer, being smaller in body and horns.

The mountain sheep and goat are found along the highest mountains of the coast and in the interior, in droves of twenty or more. They seem to prefer the highest altitudes and most precipitous steeps. Their wool is long and fine, and when nicely cleansed and tanned makes beautiful rugs. The horns of the sheep are made into bowls and ladles by the natives; and many rare and beautiful pieces worked up in this way find ready purchasers in tourists.

Bald and grey eagles are numerous throughout South-east Alaska, and are also found to some extent in the interior wherever there is large timber. The natives kill them in large numbers and pluck the feathers, leaving nothing but the down. When cleansed the skins are sewed together, about thirty of them being required to make a robe, which is at once rich and beautiful.

Humming-birds in large numbers, having the delicate plumage of those found in warmer climates, flit from bush to bush in South-east Alaska. Native boys tie small pieces of red flannel on a limb, and cover them thickly with pitch. The bright colour attracts the tiny birds, who alight on the flannel. Their little feet adhere so tenaciously to the pitch that they cannot extricate themselves, so they become an easy prey to the youngsters who trap them, only to worry them to death with savage cruelty.

In all the waters of Alaska, whether in the south-eastern

country, the interior, or Arctic regions, ducks and geese in every variety are found in vast numbers. Alaska appears to be especially adapted as a natural breeding ground. The smaller varieties of land and timber birds are as numerous as the water fowl, and the graceful swan are found in large numbers in many parts of the Territory.

In Arctic Alaska the disappearance of the snow and ice is immediately followed by the arrival of birds from the south in large numbers, and in a few weeks the Eskimos revel in the variety and number of eggs found among the grass and tundra. Besides the wholesale robbing of nests for eggs, the young fledglings are eaten by the Eskimos with a keen relish. Their stay is brief, however, for none, save the most hardy of the Arctic birds, remain to pass the long months of winter in this region.

The species of whale known as the beluga or white grampus is native in the deep waters and has been known to ascend some of the larger rivers. The skin of this mammal is employed by the natives in the manufacture of rope, straps, and soles of boots.

The hair seal is found in great numbers in the waters throughout the whole Territory, and, as is well known, constitutes the principal food supply of the natives, and especially is this true among those living in the far north. They delight to frequent the waters of Glacier Bay, and the natives hunt them much easier among the bergs of ice than in the waters of the ocean. A white cloth is spread over the bow of the canoe, giving it the appearance of a piece of ice, and the natives, dressed in jacket and hat of the same material, paddling among the ice,

are thus enabled to get within easy range of their prey before it detects the deception.

The walrus, a native of Bering Sea and the Arctic, travels in herds, and in the long days of summer may be seen in large numbers lying lazily on the ice. The skin of this animal is used by the natives as covering for their boats, and the tusks are worked up into implements of the chase and hunt, but this animal is rapidly being exterminated.

Black whale are found in all the deep waters, and may be seen sporting even in the inland passages. It is not uncommon for schools of this animal to be seen from the deck of the tourist steamers.

Whale may be considered as one of the resources of Alaska, and in the northern region they have for ages formed the principal food supply of the Eskimos.

The species of whale known as black whale has little commercial value, and are caught by the whites only for the little oil that may be obtained from them. Its present market value does not justify the expense incurred in their capture and the trying out of the blubber aboard the vessel.

Whalebone is found in the black whale, but is short, coarse, and of little or no value. The kind used so much in the manufacture of corsets, whips, and other articles is found only in the right and bowhead whale. From two hundred to two thousand pounds of bone are found in a single whale, according to its size, and its market value is about three dollars per pound. Five years ago it reached as high as six dollars per pound, but this was the result of a corner in the market, and the price

quickly dropped to three dollars, where it has remained ever since.

In the past few years many substitutes have been invented designed to take the place of whalebone, and while what is known as featherbone answers an excellent purpose, nothing has yet been found that is so light and flexible as the bone of the whale.

Whalebone is found in the upper jaw, and extends backward on both sides of the mouth. It grows in layers from six to sixteen inches wide at the butt, gradually tapering off to a point, and is from two to twelve feet long, according to the size of the whale.

On account of the high price of bone, the hunting of whale for the past ten years has been done principally with steam vessels, and it has been prosecuted with such vigour that they have been driven almost entirely out of Bering Sea, and are now found, as a rule, only after passing through Bering Strait. The close pursuit of the whale has resulted in their seeking the region near the Mackenzie River as a rendezvous or feeding ground, and of late vessels winter in this region in order to be ready for the whale's appearance in these waters the following summer.

Within the next few years, if the pursuit of the whale continues, they are destined to utter annihilation. The past fifty years has witnessed the transfer of the whaling fleet from the Atlantic and eastern Arctic Oceans to the other side of the continent, but an occasional whale is caught in those waters and in the vicinity of Cape Horn.

Less than twenty vessels are now engaged in whaling, while ten years ago over fifty were following the hazard-

ous vocation of hunting these animals among the ice. Not a season passed without the loss of one or more vessels, and in the summer of 1877 over twenty were wrecked in the ice above Bering Strait. This catastrophe led to the establishment of a rescue station by the Government at Point Barrow, the most northern point of Alaska. It was provisioned with supplies sufficient to last one hundred men a year, but, as the cost of maintaining the station was considerable, it was abandoned two years ago.

It may be interesting while noting some of the resources of Alaska to mention the value of some of its exports since the United States acquired possession. It will serve to show that the vast and varied resources of our great northern possessions are worthy of more than a passing word. The following table, carefully compiled from official records, will show that the purchase of Alaska was not only a shrewd piece of diplomatic sagacity, but that Seward's "ice-box" has proven a most profitable investment:

Furs	$54,000,000
Canned Salmon	13,000,000
Whalebone	11,000,000
Gold and Silver	20,000,000
Whale Oil	3,500,000
Codfish	2,000,000
Salted Salmon	1,000,000
Ivory	175,000
Total	$104,675,000

CHAPTER VII

REINDEER

NINE years ago the United States revenue cutter *Bear*, which was detailed by the Government to patrol the Arctic, to render assistance to the whaling vessels if they should be nipped in the ice, had occasion to pass within sight of a little island in North Bering Sea, about forty miles from the coast, known as King's Island. The man on the lookout noticed a boat loaded with Eskimos put off from the island and paddle toward the vessel. As soon as it came alongside, the occupants made known to the captain that they were in a starving condition. An officer was at once sent ashore, and soon returning he reported that the people were so reduced for food that they had been living for some weeks on their Eskimo dogs. There are about three hundred Eskimos on this island, and they live in huts dug into the side of a mountain, gaining an entrance and passing from one to another by means of pole ladders. Though difficult of access, the location of the huts affords protection from the severe winds and cold of the long winter. For eight months in the year the ice absolutely prevents the natives from having any communication with those on shore, and they only come in contact with them when

ESKIMO VILLAGE ON KING'S ISLAND, NORTH BERING SEA.

they venture across the water in their skin boats during the brief summer.

A few years ago the walrus existed in large numbers throughout all this region. The whalers on their way north have hunted them so closely that they have practically exterminated them. The walrus travel in herds, hauling out on the ice, sleeping and basking in the sun, and in this condition become an easy prey to the white man with his breech-loading rifle. They are hunted by the whalers simply for their ivory tusks, a pair of them weighing from two to twenty pounds, and having a value of only about fifty cents per pound. The natives use the ivory of the walrus in the manufacture of many of their implements of the hunt and chase, the skin for tents and coverings for their boats and canoes, and eat the flesh and oil, which they consider a delicacy.

Five or six years ago it was not an uncommon thing for a party of Eskimos to put out in a skin boat, and with their crude harpoons and spears capture a whale; but the American whalers have so closely pursued them, that now they are only found a long distance north of the last settlement. During the spring of 1897 but one whale was caught by the Eskimos for many miles north and south of Bering Strait.

Since the advent of the whalers many natives have bought muzzle-loading rifles and ammunition from them, and have hunted the wild reindeer, killing them off without regard to age or sex, until they, too, are practically exterminated. A few years ago they roamed all through Arctic Alaska in large herds, but in the past few years they have been seldom killed by these people. Thus it

will be seen that the greed of the white man has robbed these people of two of their principal food supplies, until to-day they are left in almost a starving condition, being obliged to depend almost entirely upon the hair seal and small fish for their food supply.

On receipt of the report of the cruise of the revenue cutter at Washington, the Government became interested in the starving Eskimos, and an appropriation was made for the purpose of transporting reindeer from Siberia, where they exist in immense herds; the purpose contemplated being to establish stations in different parts of Arctic Alaska, instruct the Eskimos in the manner of rearing them as the natives do in Siberia, and when they have acquired this knowledge, distribute the deer among them, so that in the future they will have an unfailing food and clothing supply.

The author was selected by the Government to establish a reindeer station at Port Clarence, and in the summer of 1892, 170 of these animals were brought over from the Siberian coast and the station duly organised. The increase of the first year was nearly fifty per cent., and other reindeer have been brought over each year since. There are about 1500 reindeer belonging to the Government now in this region, distributed as follows: Cape Prince of Wales, 350; Port Clarence, 550; Cape Nome, 175; Golofnin Bay, 300.

Arctic Alaska is peculiarly adapted to the raising of reindeer. It consists of vast areas of tundra and moss which furnishes the reindeer with an article of food especially adapted for their sustenance. There is little doubt that the reindeer industry will in the near future assume

HERD OF REINDEER LYING DOWN.

considerable proportions, and private companies will embark in the business of raising this animal in these regions for commercial purposes, the same as stock-raising is followed in the grazing regions in many of the States of the Union. Its flesh is excellent and as palatable as the venison usually found in the market, and the hides, if cured in the proper season, are well adapted to many purposes of commerce.

The colour of the fur of the reindeer is varied. Perhaps the most common is seal-brown, and when free from other shades it is decidedly rich in appearance. The fur, for such it may properly be called, after it has taken on its summer coat is soft and glossy, and about the length of that of the fur seal. When taken at this season, if properly dressed it sheds very little. The skin is soft and pliable, and but little thicker than that of the fur seal. The reindeer skin was at one time the only one used by the natives for their clothing and tents, but now the hair seal and ground squirrel skins play an important part. Reindeer skins have become a matter of luxury with the natives, and only those who deny themselves other things that they need for their comfort wear reindeer clothing. In the country about Kotzebue Sound occasionally a skin is secured from a wild reindeer, but is so rare that it assumes somewhat of the nature of a curiosity. Thus it will be seen that, practically, all the reindeer skins used by the Alaska Eskimos come from Siberia.

The result of the first year's experimenting with reindeer in Arctic Alaska demonstrated that the country was even better adapted to the propagating of these beautiful animals than their native heath, Siberia.

The expenditure by the Government of the few thousand dollars invested in this project has resulted in an increase of nearly fifty per cent., and justifies the importation from Siberia of large herds of this little animal and the distribution of them as fast as possible throughout this Arctic waste.

Essential as reindeer-fur clothing is to the miners of the interior, equally necessary is this little animal as a beast of burden, for it will solve the problem of transportation to and from the stations and mining camps. Although a full-grown reindeer will not exceed in weight two hundred and fifty pounds, a single animal will haul on a sledge as much as a team of six dogs on good roads; by this is meant, on crust or frozen ground. In deep snow, if soft, they quickly become fatigued and discouraged, but if light and fluffy, which is the character of the snow generally in the interior, they can carry their load all day long much the same as oxen, slow but sure. They are not, as is generally supposed, a speedy animal for a long distance. One day after another, thirty miles would be their average time. They are gentle and intelligent, and soon learn to know what is expected of them. They can be utilised as pack or saddle animals, but for either purpose the load must rest on their shoulders.

In riding, the position is an awkward one, for the feet nearly touch the ground, and the practice should only be indulged in when the roads are good, or to rest one who may have become tired from a long tramp.

A reindeer is at the right age to break to harness when two years old. He is most tractable when a gelding, and the argument in favour of the horse when a gelding

being better for work will apply to reindeer, although there seems to be no good reason why bulls could not be as effectually broken and as easily handled. The same can be said of females, but the occasion would seldom occur when one of this sex would be required for work, and her best sphere in life is doubtless for breeding purposes.

The favourite manner of driving reindeer is two abreast, and the device for harnessing them is simple in the extreme, consisting of head-stall, breast-strap to which the tugs are attached, and belly-band. There is no tongue or shafts to the sled, and a single line from the side of each deer with a connection from one to the other is the device for guiding them. In freighting, a single deer hitched to a sled, the driver walking alongside, and a half-dozen other deer, each hauling a sled, following behind, are easily controlled by one man.

The great disadvantage in the use of horses and cattle in this region is that feed must be provided for them, oftentimes at great expense, while reindeer pick their own food. When the day's work is done, the deer are loosened from their harness, and lassoed to a frozen mound of earth; then they paw away the snow with their fore-feet and eat the moss. Then, too, cattle and horses must be provided with water, and in this region most of the time ice must be melted to secure it, while reindeer quench their thirst by eating snow.

Congress seems to have awakened at last to the importance of prosecuting vigorously the propagation of reindeer in Alaska, for on the 3rd of March last an appropriation of $25,000 was made for this purpose.

The first efforts made to introduce reindeer in Alaska for the purpose of providing food and clothing for the starving Eskimos were met with severe criticism, and this has continued since the establishment of the first station at Port Clarence in 1892. Additional zest was added to this opposition by the failure of the attempt to import reindeer from Lapland, for the purpose of relieving the supposed starving miners in the Klondike in the early spring of 1898.

While this project was a failure, little else could be expected when the transportation of these animals for several thousand miles is considered, first by ocean steamer to New York, then by rail across the continent, this being followed again by steamer from Seattle to Lynn Canal. It was no wonder that they arrived in a weakened condition at the point where the overland journey to the Klondike was to begin; indeed, the wonder is, that a single reindeer was living when landed in Alaska.

A counteracting argument against the importation of reindeer into Alaska, is the successful result of the driving of four hundred and fifty reindeer over four hundred miles from Unalaklik to Point Barrow, for the relief of the imprisoned shipwrecked sailors, which was accomplished in 1898 in the dead of an Arctic winter through a country a part of which was never before travelled by whites.

The practicability of reindeer for transportation in Alaska has no warmer advocates than Lieutenants Jarvis and Bertholf and Surgeon Call of the revenue cutter *Bear*, and Mr. W. T. Lopp, missionary at Cape Prince of Wales, who composed this expedition; and the serv-

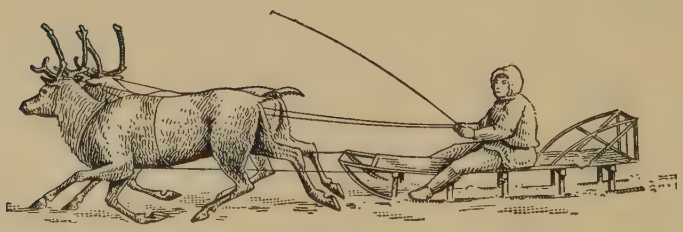
ices of these men who braved the terrors of such an undertaking during the trying and dangerous tramp of four months, are well worthy the bestowal of the gold medals they have received for their bravery.

The Eskimo dog in Alaska is the Eskimo beast of burden. He is a creature of great sagacity in his way, and does not possess the worthless traits of the cur usually found among Indians in more temperate climates. He is cared for with the indulgence shown a child, and while the nature of the Eskimo is to be brutal to all creatures not human, his dog is fed regularly, and the last fish is shared with the animal, whether on a journey or at home. While the Eskimo prizes his dog highly, it is not because he is actuated by feelings of affection, for this animal is not looked upon in the light of a companion, and is never caressed or petted.

The Eskimo dog is doubtless part wolf, for many of his characteristics are wolfish in nature. He looks like a wolf, he howls like a wolf, never barks, his hair is more like fur, and he is in his natural element when lying on the top of snow with no protection from the severe blasts of the Arctic winter, and seems thoroughly comfortable when exposed to the fury of a storm. He lies curled up like a ball and sleeps as soundly as though on a bed of furs. He is strong and powerful, and when six or eight of them are hitched together it is wonderful what loads they can handle. Twenty-five or thirty miles a day is a fair average for a dog team, and on a good road, hitched one ahead of the other, they make a pretty team. They are persistent, and when unable to haul a heavy load, will jump up and down with a broken chorus of howls mani-

festing their impatience to go, and, when they settle down to an earnest pull, never give up until they have exhausted all their strength. An Eskimo dog team is an expensive luxury in the interior of Alaska, for dried fish is their food, and on a long journey the bulk of the load must be made up of food for the team.

The St. Bernard and Newfoundland dogs are not, as is generally supposed, profitable dogs for this country. Though they can haul heavy loads, they are not adapted to the long, severe winters of this latitude. They do not take kindly to fresh or dried fish, hence the master must share his food with his team, thus making it an expensive one to keep. But the great objection to these dogs is that their feet become sore on a journey, on account of the snow filling in between the toes and freezing, thus soon disabling them.



CHAPTER VIII

ESKIMO HABITS AND CUSTOMS

WHENCE came the Alaska Eskimo is a question that will probably never be satisfactorily determined, as no record or written history furnishes a clue, but the consensus of opinion seems to point to an Asiatic origin.

Professor Dall, in his report on the distribution, origin, etc., of the native races of the northwestern territory, believes the natives of Alaska were once the inhabitants of the interior of America, and that they were forced to the west and north by tribes of Indians from the south. He can in no way connect them with the Japanese or the Chinese, either by dress, manner, or language.

Mr. L. M. Turner, who spent a number of years among the Aleutian Islands and on the East Bering coast as far north as Norton Sound, reports to the Smithsonian Institute, that the Innuits or Eskimo without doubt populated this country from the coast of Greenland, and that he found no trouble in tracing a relationship, and proof that the migration was from the east to the west.

Professor Otis T. Mason, of the same institution, takes the position that the emigration came from Asia to this continent, and that the Alaska Eskimos are undoubtedly of Mongolian origin.

The first thought that strikes one when he looks upon an Alaska Eskimo for the first time is, "how striking the resemblance to the Japanese," and the longer he associates with them, the more strongly he is impressed with the idea that at some time, though very remote, there has been a connecting link between these two peoples.

Their stature, colour of hair, shape of eyes, olive complexion, and small hands and feet all bear a striking resemblance to the Japanese. Many of their characteristics are similar, as, for instance, their sunny and happy disposition; the most marked characteristic perhaps being their innate faculty of imitation which is so conspicuous among the Japanese.

The usually accepted theory that some time in the past the Japanese worked their way northward through Siberia and thence across the narrow waters dividing the two continents at Bering Strait and populated the Arctic regions, does not seem altogether a plausible one. The strongest argument against it is, that since the Arctic is a region of desolation, a wild, bleak expanse of ice and snow, there was little inducement for the Japanese to migrate to such inhospitable shores.

It seems a more reasonable theory that sometime in the world's history, what is now known as the polar regions was a tropical country, and when the change came the inhabitants emigrated southward, perhaps crossing Bering Strait, leaving a remnant of their people in the north, who are the Eskimos of to-day.

Little Artmarhoke, one of the Eskimo twins whose picture appears elsewhere in this chapter, is a fair

illustration of the resemblance the Eskimo bear to the Japanese. The resemblance is effectually shown in the picture, in which this little Eskimo has exchanged her fur clothing for a loose jacket and skirt, which, together with the simple arrangement of her hair to the style worn by these people, has transformed her into a veritable little Jap.

Another interesting point in connection with the Eskimo is that they are found in every part of the Arctic region explored by the white man, from Smith Sound in Greenland to nearly the western limits of Siberia; thus these people, whose numerical strength aggregate but a few thousand, inhabit a greater extent of country from east to west than any other people on the globe, with the single exception of the Anglo-Saxon.

The Eskimos of Arctic Alaska do not live, as many suppose, in snow houses. They live in huts built underground. Usually more than one family occupy a single hut, and often ten or fifteen persons live for eight months in the year in a single apartment that is barely large enough for two persons.

Their huts are built by digging a hole in the ground about six feet deep, and large bones of whale or logs from driftwood are stood up side by side all around the hole. On the tops of these are laid logs that rest even with the top of the ground. Stringers are then laid across them and other logs are laid on these, then moss and dirt are covered over, leaving an opening about two feet square, over which is stretched a piece of walrus entrail that is so transparent that light comes through, which answers the purpose of a window.

An entrance into the hut is made through an apartment constructed similar to the hut, in the top of which a hole is left large enough to admit a person, and by means of a sort of step-ladder he reaches the bottom. From this is a passageway, usually about two feet square, through which he must crawl on his hands and knees to reach the living-room of the hut, perhaps fifteen or twenty feet away. At the end of the passage leading into the hut is a skin which is pushed aside when one enters or goes out. When this is closed over the hole, the apartment is practically air-tight, and when occupied by a dozen or more persons the air soon becomes so foul that one side of the little skin window has to be pulled up to let it escape. Occasionally a hut is found where the occupants appreciate the value of fresh air and have inserted a wooden spout in the roof through which the impure air is allowed to escape.

No tables or chairs are ever used by the Eskimos, and the only article found in the way of furniture is their stove, or, more properly speaking, lamp. They are all of one pattern, usually of wood, but sometimes of stone, and are shaped the same as a circular board would be if cut in halves. The centre of the lamp is hollowed out to a depth of perhaps a half-inch, thus leaving a ridge. Along this ridge is spread a sort of cotton, gathered from a wild shrub in summer. This answers for a lamp wick, and when saturated with seal oil will burn a long time before being consumed. The lamp is placed on two wooden pins driven into the logs on one side of the hut, and above the lamp is driven another wooden pin, on which is placed a piece of seal blubber, just far enough

ARTMARHOKE DRESSED AS A JAPANESE.

from the flame to cause the oil to drip sufficiently to furnish fuel for the lamp.

The Eskimos may be truly said to burn the midnight oil, for their lamps are never suffered to go out from the time they are lighted in the fall until they abandon their huts for the tent in summer. This is their only stove, and for heating purposes is excellent.

The Eskimos are, as a rule, industrious. It is seldom that a lazy person is seen among either sex. They early learn that an existence is only to be had by applying themselves to some task, and the older they grow the more they are impressed with the knowledge that they can satisfy the cravings of an empty stomach only by industrious labour.

The preparation of skins requires ceaseless exertion, and when they are ready to be made up, sinew thread must be braided and twisted, which in itself is an art. This is one of the first things a young girl is taught, and while she is yet almost an infant is capable of preparing thread from deer or whale sinew with all the dexterity of a woman. Most women are expert sewers, and their stitches are often as even and regular as could be made by a machine.

Eskimo women have long since learned the advantage of the needle of civilisation over the ivory awl used by their great-grandmothers. Our thimble, too, finds a place in their workbag, and is esteemed a great improvement over the piece of sealskin cut to slip over the finger, which they formerly used, but they discard our cotton and linen thread as vastly inferior to sinew thread in working upon skins.

Probably in the fact that the Eskimos are obliged to put an endless amount of labour into nearly everything they make, lies the secret of their everlasting patience. They will scrape at a skin a long time before scarcely any impression is made upon it, and rub and pull at one when it is hard and stiff, but finally the skin becomes soft and pliable under their delicately formed hands, which seem poorly adapted to such work.

Their hands are, without exception, small and prettily shaped. Among those women who are large and tall their hands are unusually small and shapely. The same is true of their feet. The complexion of the Eskimos is also of a character that one would scarcely expect to find among people who are brought so much in contact with the elements. Although the colour of their skin borders strongly on the olive order, it seems soft and clear.

In eating, the Eskimos all sit around in a circle, and the food is placed on the floor in the centre of the group. No meal, whether it be of dried or frozen fish, seal or whale meat, is ready to be eaten until a vessel containing seal oil is at hand. This is placed in a position easily reached by those eating, and before taking a bite of anything it is first dipped into the oil, or two or three fingers are thrust into it, and then placed in the mouth and sucked. Such a thing as a spoon is rarely ever used by them, and it is doubtful if many of them would understand its use if they had one.

It is when a household of Eskimos are gathered about the floor partaking of their food that their natural disposition to mirth is given full sway, and every meal, whether in their huts or when camping out, partakes more

ARTMARHOKE. ZAKSRINER.

ESKIMO TWIN SISTERS.

of the nature of a family reunion than an every-day occurrence. They are naturally given to jest and laughter, and a continual hubbub reigns until the last morsel is eaten. This predisposition toward good nature is always present. A surly Eskimo is rarely seen, and whether it rains or shines, or the wind blows a blizzard from the North Pole, they are the same happy and apparently contented people.

The Eskimos have but one standard measure, and that is the fathom. It means as much as a man can span by holding his arms out at right angles to his body, and this measures about six feet. When buying calico or drilling of the whites, or measuring the dimensions of a boat or log, or for any other purpose, it is always so many fathoms.

If a woman wants to make a present, the only thing that suggests itself to her, and in fact the only thing she ever gives to a lover, is a tobacco pouch. These they make of reindeer or squirrel skin in various styles, and decorate them with beads or some fancy-coloured fur, such as the ermine, either in its delicate yellow tinge of summer or the pure white it assumes in winter.

The Eskimos still cling to the primitive manner of making fire with flint or by rubbing two pieces of wood together.

They carry these articles in a little bag, in the bottom of which are little wads of the same fibrous material used for wicks for their oil lamps, and which is gathered from a wild bush in the fall of the year. In making a light, they take a small piece of this cotton, which has previously been rolled in wood ashes, and holding it between the thumb and flint, strike the flints together, and

the sparks emitted ignite the cotton, which is blown into a flame. It is a crude way of getting a fire started, but is one of the most simple and interesting of their customs, for it comes from a period of time when the Eskimos had to depend upon their own resources for obtaining a fire, and before they knew anything about the usefulness of the match of civilisation.

The Eskimos are complete slaves to tobacco, and it is seldom that one is seen who does not use it in one form or another. All the men and most of the women smoke, while a child, after it reaches the age of five or six years, appears not to be a true representative of his race, if he cannot smoke a pipe or chew tobacco.

While nearly all the women smoke, they take to chewing more naturally, and they do it so quietly that one would not suspect it from their actions. They never spit, and only crunch it occasionally, preferring to suck it or allow it to lie quietly in the mouth, and, as spittle accumulates, swallow it. They cannot understand why a white man spits when chewing or smoking, for they seem to find pleasure in the habit only from swallowing the juice. If a native is chewing and wants to eat he carefully takes the quid of tobacco from his mouth and puts it on top of his ear. From this place it is afterwards taken to be again put in his mouth, and this process is repeated until he has gotten all the substance he can from the tobacco. It is then carefully put away in his tobacco pouch, to eventually find its way to his pipe, and the end of that tobacco is not reached until it is wafted away in clouds of smoke. An Eskimo who is without tobacco is as wretched as a confirmed drunkard without his whiskey,

and he will go to as great extremes to secure it as he would to procure food for himself and family. It is the first thing he asks for when a white man approaches him, and the first article he wants to trade for when he has furs to sell.

There is no doubt that the Eskimos smoked and chewed long before they obtained tobacco from the whites, for even now one is occasionally seen using a substitute made from a root found in the country.

The Eskimos have two kinds of water craft,—the oomiak, or skin boat, and the kyak, or canoe. The oomiak is a curiously constructed affair, and when standing on the beach looks lumbering and awkward and as if it would not carry a heavy load or ride much of a sea; yet as many as thirty or forty persons often get in one, and when thus loaded it will ride in rough water with remarkable buoyancy. The usual size of the oomiak is about thirty-five feet long, six feet beam, about four feet deep in the middle, and comes almost to a point at both ends. It is built something after the shape of a dory. The framework is made of pieces of timber, the heaviest of which are about three inches square. These are placed lengthwise in the bottom of the boat, and across them are lashed small strips by means of seal thongs, each joint being made to fit closely.

When the timbers are firmly lashed together they are very strong, and a heavy sea striking the side of the boat will not cause it to yield at a single joint. When the framework is finally ready, walrus- or sealskin is stretched over it, the pieces sewed together and pulled as tightly as possible, and then lashed to the top-rail. When the

skin is in place scarcely a drop of water can penetrate through the seams. Over the top-rail about two feet of the skin is allowed to hang loosely on the inside, the whole length of the boat, and when sailing in rough weather, slats are raised between the skin and frame, the loose skin pulled up, thus giving about two feet more of surface above the sea, and if carefully managed scarcely a drop of water can reach the inside in the roughest weather. The oomiak has no keel, and therefore cannot beat or tack against the wind, and the only thing to do if it blows too hard is to seek the first landing that can be made.

There is generally but one mast to the oomiak, and this stands about one-third of the length back from the bow, and when there is no wind it is taken down and laid in the boat. Sometimes, when the wind is fair, a second but smaller mast is placed about the same distance from the stern of the boat, but they are only used in the largest oomiaks. The lower end of the mast is inserted in a slot between timbers in the bottom of the boat, and guys extend from near the top to both sides and also to both bow and stern.

One not accustomed to the oomiak is in constant dread of moving about, for fear that if he should step between the framework he will make a hole in the skin, for the water is plainly seen through it. The natives pay little attention to where they step in going from one part of the boat to another, and although their feet will depress the skin two or three inches, there is no danger of its giving way, and the very spot they are standing on would doubtless hold up a ton.

ESKIMO BOY, ESKIMO HUT, ESKIMO GIRLS, ESKIMO FAMILY,
ESKIMO SPEARING WALRUS

Nansen says the kyak of the Eskimos is the most remarkable craft known. It is similar in construction and style to the skin canoe or bidarka found among the natives along the southern coast of Alaska. It is not much used by the coast Eskimos, as they do most of their travelling by water in the oomiak, but those in the interior use it to greater extent in navigating on the rivers and lakes, on account of its extreme lightness, a single kyak weighing about twenty-five pounds. They are generally the single-hatch kyak, but occasionally one is found with two or three hatches and capable of carrying as many persons.

The snow-shoes of the Eskimos are similar to those used in all cold countries. They are always carried on the sled when travelling and are much needed when the snow is falling in the spring. They are especially useful when hunting seal on ice, for the wearers are thus enabled to cross broken cakes of ice without danger.

The Eskimos are decidedly domestic in their habits. The men are usually considerate of their wives and the affection of parents for children is very marked. Children are seldom punished, and if so, lightly. They usually respond quickly to a command and are very obedient.

An invalid is an object of great solicitation and often receives contributions of food from those whose supply does not justify the gift.

Occasionally a man will whip his wife for some real or fancied wrong. This practice appears to be a sort of generally established right that the husband is entitled to indulge in, and the woman seems to think more of her huband after the punishment.

Should a man and woman separate, he takes possession of all her personal belongings, even stripping her of clothing that may be useful to a second wife.

The women have various ways of adornment. They sometimes have the middle latch of the nose pierced, through which pieces of ivory are suspended. They also pierce the ears above the end and pass two or three strings of beads from one ear to the other under the chin. Their ambition, however, is to wear rings and bracelets of brass or copper, which they value as we do gold.

A mark which serves as a good means of determining sex is worn by the females. It consists of three or five lines about an eighth of an inch wide on the chin. Instead of pricking it in, a sharp instrument is drawn over the skin until blood comes, and wood ashes are then rubbed in, and when it heals it leaves marks like tattooing. This practice is universal, and is usually put on when a girl reaches the age of eight years.

The men seldom tattoo their arms and hands. Their only peculiarities of dress are shaving the crown of the head and wearing the labret. An aperture is punctured in either side of the lower lip with much care and some pain, to insert the labret, which is usually made of highly polished ivory with a colored bead in the centre, and is from half an inch to an inch in diameter.

The only difference in the style of the clothing worn by men and women is the shape of the artiger, or coat, and trousers. The artiger of the women has a slit at both sides from the bottom to the hips; that of the man is the same length all around. The trousers of the women

A TYPICAL ALASKA ESKIMO GIRL.

have the foot-gear sewed to them; those of the men are cut off at the knee or ankle. When a woman is bundled up, with the hood of her artiger drawn closely around her face, the tattoo marks are covered, and the only way to distinguish her sex, is by the shape of her artiger.

A most ingeniously contrived garment is the Eskimo rain-coat. It is made from the intestines of the hair seal and walrus. Strips about three inches wide are sewed together with thread made from the sinew of the reindeer, stripped in shreds and woven into this remarkable thread. This Eskimo mackintosh is exceedingly light, not weighing more than four ounces, and is large enough to cover the head and body as low as the knees. Clad in it, one is as thoroughly protected from rain as he would be in the mackintosh of civilisation.

Plurality of wives is a practice that is by no means common, and when it does occur it is among men who, by virtue of their possessing more property than their neighbours, are able to support more than one wife. When the custom prevails, there appears to be no disturbing or quarrelsome disposition, and if there is any, the aggrieved woman bottles her wrath; doubtless from fear that she will be turned out to shift for herself, which is more to be dreaded than any pang of envy or jealousy she might experience.

The Arctic Alaska Eskimo is, physically, a fine specimen of the human race. While as a rule they will not average over five feet six or eight inches in height, occasionally a six-footer is found. They are not by any means dwarfish in stature or slow and sluggish in their movements; neither are they dull and stupid intellect-

ually. The casual observer might think them so, for they appear subdued and reserved when among the whites; but when away from them and left to act freely, they are bright, cheerful, and intelligent.

A stout or corpulent Eskimo is never seen. Their whole life is one which calls into play every muscle of the body, and they are distinctly an athletic race. Not a pound of superfluous flesh is on their closely knitted frames, and, while their hands, lower limbs, and feet are very small, their chests and shoulders are grandly developed, and their arms are muscular and sinewy.

They are very fond of athletic sports, and football and jumping are practised by them to a considerable extent. They indulge in many exercises that test their strength, such as pulling each other's arms when locked together, wrestling, lifting each other or heavy weights, and many such exercises that will bring into play every muscle. Many of them excel in jumping and kicking, and occasionally one is found who can kick with both feet higher than his own head, a performance that few white athletes can accomplish.

When dancing, one or more of the men beat upon a drum made by stretching a piece of walrus entrail over a hoop, and this serves as a time-marker for the participants in the dance, to which the grotesque throwing about of the arms and twisting of their bodies are made to add a pantomimic accompaniment. During all this time they jump and whirl about in the most violent manner, and only stop from sheer exhaustion. The drum is the only musical instrument used by the Eskimos. They are all very fond of song, and the blending

of their voices gives a harmony that becomes more pleasing to the ear the oftener it is heard.

The Eskimos have no creed or dogmas of religion—no God or idols, but they are always guided by the mysterious, and have many symbols and signs of good and evil; their life is one continuous round of superstitious belief.

There are about 20,000 Eskimos in Arctic Alaska who are the most intelligent, good-looking, and amiable natives found on the continent. These blubber-eating savages, as they are often denominated, are now on the verge of starvation as the result of the avarice of commerce in the wholesale massacre and extermination by the whites of the walrus and whale, which, from time immemorial have been the two chief articles of diet of these people. It is well worth an effort on the part of the Government to rescue the Alaska Eskimos from starvation, and the project of distributing reindeer among them to provide them with food and clothing is the best missionary work the Government can undertake; for while it encourages them to cultivate a vocation it will also relieve the nation of the obloquy of having wards uncared for and neglected.

CHAPTER IX

ALASKA INDIANS

WHAT we have said of the origin of the Eskimos of Alaska and their relationship to the Japanese may be applied with equal force to the Indians of Alaska.

In their personal appearance, there is very little resemblance to the North American Indians, but there is a most striking one to the Japanese. The same imitative quality that is so prominent among the Eskimos is perhaps the most distinguishing characteristic also of the Alaska Indians. The resemblance between the so-called Indians of Alaska and the Eskimos is so strong, that if the Indian should exchange his usual garb, that of European clothing or a blanket, with the Eskimo for his fur clothing, it would be difficult to determine that either was not what his dress would seem to indicate.

While it is true that both the Indians and Eskimos are small in stature, many of the former, notably the Copper River, Kuskoquim, and Tanana River Indians are tall and sinewy; and it is not uncommon among the Eskimos to find many of them five feet eight inches, five feet ten inches, and even six feet in height.

Among the coast or Southeast Alaska Indians, there are but four or five distinct lanugages, the Thlinkit being

the most generally used. But all through this region and extending as far west as Yakutat, and into the interior to the headwaters of the Yukon, what is known as Chinook, a jargon originated by the early settlers during the palmy days of the Hudson Bay trading-posts is generally used. It contains but a few hundred words, many of them more striking than elegant. Beyond these points the Chinook jargon is never used.

The aborigines of any country are quick to adopt the vices of the white man, but much slower in assuming his virtues. This is not to be wondered at, as usually the whites with whom they first come in contact are not of a class whose virtues are conspicuous, and the unsuspecting native has the smooth paths of vice pointed out more often than the steep and rugged road of virtue. The aborigines' love of intoxicants is great, and he will do almost anything to procure them.

When the Russians first occupied the country, they taught the natives to make quass, a cooling and comparatively harmless drink, concocted of rye meal mixed with water which they placed in a cask until fermented. Latterly the natives learned to add sugar, flour, dried apples, and a few hops, putting the whole into a cask until cleared by fermentation. A strong intoxicant is the result. Another home-brewed intoxicant, called hoochinoo, is made of fermented molasses and flour, and is a vile kind of liquor. When imbibed, it fairly crazes the natives, fitting them for any deeds of violence or viciousness. They are fond of Jamaica ginger, lemon extract, Florida water, cologne, or, in fact, anything having fragrance or a "tang."

Totem poles are found in every village along the southeastern coast. There is some difference of opinion as to their real significance. They are intended, in part, to commemorate deeds of bravery, or some virtue, in the lives of the departed, near whose graves they are reared; also to indicate the family arms of the persons for whom they are erected, and whose habitations they adorn. Some tribes are represented by the crow or the hawk; others have the bear, the whale, or the beaver, as their distinctive tribal emblem. These poles are elaborately carved from top to bottom, some reaching the height of fifty feet, and being three or four feet in diameter. The height signifies the importance of the individual. These people have an oral mythology of the most fabulous character, handed down from father to son. Many of the curious carvings on the totem poles are designed to tell, in story, some event in the history or tribe of the individual.

Despite the efforts of missionaries and teachers, and the influence of civilisation, witchcraft is still believed in to a greater or less extent. Evil spirits still take possession of the old, the decrepit, and the deformed, sometimes of the young, and these must be exorcised; it being considered a matter of duty to dispossess the unfortunate of his tormentors. Death sometimes results from the tortures undergone by those "bewitched."

Cremation was formerly practised throughout the whole coast country of Alaska, but it is fast disappearing now, except where it is followed by tribes removed from missionary influences. It may be here suggested, however, that the energies expended by missionaries and

teachers in eradicating this custom, time-honoured in its antiquity, might have borne better fruits if spent in other directions.

The dead are usually placed in boxes, not long enough to permit the whole body to recline at full length, so it is jointed and placed in a sitting posture, and the box kept above ground. Sometimes the location of a grave is on a high point, where the departed spirit can look out upon his former haunts. Some of the personal effects of the deceased are often placed beside him.

The shamans, or doctors, are never cremated, but lie in state four days—one day in each corner of the dwelling,—then the corpse is conveyed to the dead-house, where it is seated in an upright position, with blankets and paraphernalia to add to its comfort in the spirit land.

Among the Thlinkits, the name by which most of the natives in South-east Alaska are known, cremation was formerly the favourite method of disposing of the dead. The bodies of "witches" and slaves were disposed of with great secrecy, but those of chiefs lay in state. The people observed certain rites, then the body was cremated, the totem pole erected to his memory, and his ashes were incased in the base.

There is positive evidence that cannibalism was practised among these people upon the death of chiefs; the sacrifice of slaves was common, that their spirits might accompany them into the spirit land. It is highly probable that the bodies of these slaves were cooked and eaten. Medicine men have sometimes been known to devour portions of corpses, believing that they would acquire control of the spirit and gain influence over

demon spirits. As the giant tree yields to the axe of the woodman, so are most of these practices and customs giving way before the advance of civilisation.

INDIAN DOCTOR.

The Alaska Indians are inveterate gamblers. The favourite game is played with a handful of small sticks of different colours, called by various names, such as

crab, whale, duck, otter, etc. The player shuffles all the sticks together, then places them under bunches of moss. The object is to guess under which pile is the whale or the duck, etc. Simple as it looks, the natives often lose all their possessions at the game. This kind of gambling is much the same as that called "sing-gamble" among Puget Sound Indians, the latter of whom accompany the shuffling and hiding of sticks with a weird chant.

They are remarkably expert in carving and engraving, as the numerous totem poles, arrowheads, spearheads, and silver and copper ornaments prove. Bullets, spear-heads, and arrowheads, as well as ornaments of various kinds, are made by the natives of copper, found on White River in the interior country, and not on Copper River, as is generally supposed. Baskets of ingenious design and colouring are made from grasses and roots; and the celebrated Chilkat blanket is made from the wool of the mountain sheep. Some of these blankets are really beautiful in design and workmanship, many of them being sold for one hundred dollars. They are woven on rude hand looms, and it usually takes a native woman six months to complete one. The real article is, however, becoming scarce, as most of those now seen contain an admixture of the coarse yarn of commerce.

Before the strong arm of the law stepped in, an injury of one native by another could be satisfied by the payment of some article of value, usually a blanket. Even murder could be atoned for and forgiven, if a sufficient number of blankets were handed over to the murdered man's relatives. The law of "An eye for an eye, and a

tooth for a tooth," was modified by these people. An innocent person might be sacrificed, and this was considered an equivalent and taken as full satisfaction and the murderer was allowed to go free.

The canoe of the native is to him a necessity. It is made of wood in South-east Alaska; in the far north, of skins. In the southern portions the wood selected is usually the red and yellow cedar. Many of these canoes have graceful lines, elaborately carved prows and sterns, and are frequently large enough to carry forty or fifty men. They are cut out of the whole tree, the magnificent yellow cedar, which frequently grows to a great height, and is from seven to ten feet in diameter, being the best. The sides are carefully modelled, worked, and bent by the use of hot water so as to have the required graceful curve, and the canoe, when finished and dried, always retains the shape given to it by the builder.

The paint used by the natives to decorate their canoes, totems, and faces, is of two colours only, red and black. It is made of a kind of rock found in the country, which is rubbed over the surface of a coarse stone, and as it is ground off water or oil is mixed with it, and it makes a very excellent substitute for paint. Brushes are made of feathers, or the sinews of animals. The Eskimos of the Arctic find the same kind of stone in that region, and use it for painting or decorating their sleds. The Aleuts, especially west of Unalaska, are artistic in their work with grasses and roots, and the delicacy with which they weave and braid them evinces wonderful skill.

It is the practice of the natives of South-east Alaska to blacken their faces in summer, by rubbing in soot mixed

SOUTH-EASTERN ALASKA INDIANS AND CANOES.

with seal oil. This is done to prevent the sun blistering them when travelling on the water. It also acts as a shade to their eyes, which would otherwise suffer from the glaring reflection of the sun's rays.

The houses of natives in South-east Alaska are constructed of hewn boards or planks, and in some of the larger villages they are built of massive logs, very similar to the log houses built by whites in heavily timbered countries. In the centre there is a square opening, eight or ten feet across, which is neatly filled with gravel, upon which the fire is built. The smoke ascends to the roof through an opening made lengthwise, with the comb several feet long, of boards or thin slabs, that can be raised on either side so as to make a perfect draft, according to the direction the wind is blowing. Around the fireplace, the floor is built a few inches high, and bunks are placed against the sides of the house in such number as the occupants require. There is rarely more than one room in the house.

The house of the Aleuts, or natives of the Aleutian Archipelago, is called a barabara, and is a sort of sod house and dugout combined. The entrance is usually by a dark and narrow opening, through which the natives crawl, and which leads into the main room.

CHAPTER X

MISSIONARIES AND THEIR WORK

IT was in 1793, that Catherine, Empress of Russia, sent missionaries to Russian America to instruct the natives in religion, and at the same time, also sent convicts from Siberia to teach them agriculture. The result of this strange admixture was that, in ten years, the number of natives was largely reduced, the outrages of unscrupulous men being so unspeakable. The lives of natives were valued no more than those of dogs; and the spirit and life were nearly stamped out of such as survived.

The Russian proverb—"Heaven is high and the Czar distant"—was followed literally, and the indignities practised upon the unfortunate natives were without limit. A few priests of the Greek faith tried to stem the tide, but succeeded in an indifferent manner. Their missions were established at different points on the coast, and even in the interior. The natives, attracted by the pomp and ceremony of the church, were attentive listeners and observers. But they understood very little, and not much information was imparted, aside from teaching the Russians and half-breed children the rites of the church. Indian attendance was not encouraged in the Russian schools.

During the Russian occupancy, Finns, Swedes, and Germans were largely employed by the fur company, and a Lutheran missionary was sent out to Sitka for their benefit, and a mission established in 1845. The Russian schools and churches, for the most part, were closed in 1867, when the American flag displaced that of Russia; and Russians and other Europeans returned to their respective countries, leaving the people "corrupted and degraded by their influence." The Lutheran preacher with his flock also departed, United States soldiers were placed in frontier posts, and a new set of traders took the places of the former ones.

For seventeen years Congress neglected to provide any form of civil government for her new possessions; all progress was checked, and healthful development was at a discount. This was no doubt due to the bitter denunciations of the purchase of Alaska, and the ridicule heaped upon what was sneeringly referred to as "Seward's Folly." Alaska was considered by the American people as a whole to be an inhospitable region of perpetual snow and ice; peopled by ignorant, fierce, and degraded savages—notwithstanding the statement which has been so often quoted from Mr. Seward's speech on Alaska: "That it must be a fastidious person who complains of a climate in which, while the eagle delights to soar, the humming-bird does not disdain to flutter."

Finally, the tales of gold discovery, coupled with the work of American and other missionaries, stimulated our Government into attempting an assumption of its duty. It is an undoubted fact that the present geographical knowledge of this vast country has been largely gained

through devoted missionaries, and it is also due to this class of persons that the natives have learned "that the white men are not all bad," a belief strongly implanted in their minds from their intercourse with vicious and unscrupulous persons.

In 1885, Congress first made an appropriation for the Alaska public-school system, and since that time over thirty schools have been established at different points throughout the Territory, and money appropriated by the General Government is annually distributed among the established church denominations, which goes towards supporting their respective schools.

The first school in Alaska was organised at Kadiak by Gregory Shelikoff, in 1784. The first church building was also erected there; it still exists, but the school has been extinct for a quarter of a century.

The Indian industrial training schools have proved excellent educational institutions. Among these, three deserve especial mention. They are located at Sitka, New Metlakahtla, and Koserefski. The school at Sitka is partially aided by the Government and is under the Presbyterian Board of Home Missions, that at Koserefski is under Roman Catholic supervision, and that at New Metlakahtla is under the direction of Mr. William Duncan, to whose work reference is made elsewhere in this chapter.

In these schools the boys are taught painting, carpentry, shoemaking, and other trades. The girls are instructed in cooking, baking, sewing, and all branches of plain housekeeping, the purpose, in short, of these schools being to civilise and Christianise the native children.

SITKA AT 10.30 P.M.

At Juneau, Sitka, Unalaska, St. Michaels, and three or four other points along the coast, the Russian Church is still labouring, especially with the natives, among whom there are a large number of communicants. This church, the first established in Alaska, had a few—a very few—noble exceptions among their priests who did good work for the natives. But while they were solicitous for the spiritual welfare of the natives, their attendance at school did not seem to be desired or encouraged.

The Roman Catholic Church has had in Alaska, since it passed into the possession of the United States, a number of earnest workers in their cause, principal among whom are Father Barnum, Father Althoff, and Father Tosi. The former has spent a number of years in the interior, principally along the Lower Yukon; Father Althoff labouring in South-east Alaska for over sixteen years, during which time he founded at Juneau St. Ann's Hospital; and Father Tosi, after twenty-five years spent in the interior, died last year on his way to civilisation from his field of labour.

Three years ago the Episcopal Church created a diocese of Alaska presided over by Bishop Rowe, whose residence is at Sitka. Since assuming the charge, he has made long journeys into the interior, coming into personal contact with the natives, and labouring earnestly in his efforts to extend the influence of his church among these people.

The most remarkable and interesting missionary settlement in Alaska is New Metlakahtla. Some forty years ago, a young Englishman named William Duncan landed at Fort Simpson, about seven miles south of the Alaskan

boundary. He came alone, knowing nothing of the people among whom he was about to cast his lot, but at the early age of twenty-one solemnly dedicated his life to the cause of raising from barbarism a race whose frequent acts of cannibalism stamped them as among the most savage people on the face of the earth.

Metlakahtla was the village that Mr. Duncan established nearly half a century ago. There eight hundred natives lived and prospered. Taught by their devoted friend, they sawed logs, built houses, canned salmon, and engaged in nearly every branch of business that would utilise the products of the country. A church edifice, that would do credit to many a larger white settlement, reared its spire heavenward, and every man, woman, and child in the settlement regularly sought religious consolation there.

But a representative of the Church of England appeared among them, and insisted that that portion of the sacrament wherein wine is administered, and which Mr. Duncan had ignored, should be observed. His reason for not carrying out this important tenet of the church was that he had found his greatest trouble in teaching the natives to avoid intoxicating drinks; and he reasoned that, if he permitted wine at the sacrament, his people would not understand why they should not indulge in liquor at other times.

Mr. Duncan's prejudice in this matter was so strong that he said if his course were not permitted, he would take his people, like the Pilgrims of old, to some place where they could exercise religious liberty, untrammelled by church dogmas. The church ruling was insistent,

NEW METLAKAHTLA.

FROM A PHOTOGRAPH BY LA ROCHE, SEATTLE, WASH.

and Mr. Duncan, equally determined, went to Washington, sought President Cleveland, and explained how the Church of England had attempted to supplant him with another minister among the people to whom he had devoted his life.

He was assured by the President that this Government would offer an asylum where they could enjoy religious freedom; and promised that Congress would take action looking to their protection. Accordingly, on March 3, 1891, a bill was passed, setting aside Annette Island for the use and benefit of these natives, but immediately following his visit to Washington, and upon the strength of the promise that his people would be protected, they abandoned their improvements and property, gave up their comfortable homes, and with only a few household goods, went out into the wilderness. On the seventh day of August, 1887, they arrived at their present home, naming it New Metlakahtla, and under the graceful folds of the Stars and Stripes, which they had flung to the breeze, they solemnly transferred their allegiance from Canada to the United States.

In the past twelve years, a settlement has been built up that bears witness of wonderful progress in civilisation by these people. They live in comfortable houses, many of them handsome and homelike. Every branch of business is represented as in their old home, only in a more advanced scale, and the people are self-sustaining, industrious, and happy. And the secret of success of this missionary settlement is its isolation from white settlements, and the natives have been compelled by strict discipline and teachings to abstain from association with the whites.

Rev. Hall Young and wife, formerly at Fort Wrangel, Professor and Mrs. John A. Tuck, of the Methodist Episcopal Church, stationed at Unalaska, Mr. and Mrs. W. T. Lopp, Congregational, at Cape Prince of Wales, Mr. and Mrs. I. Loomis Gould, Presbyterian, at Jackson, Rev. and Mrs. E. A. Austin, Presbyterian, at Sitka, have all worked for a number of years with a devotion rarely equalled.

The noble army of martyrs has also been recruited in Alaskan borders. Father Juvenal, a Russian priest, was killed at Cook Inlet for his interference with polygamy. Archbishop Seghers, of the Roman Catholic Church, was murdered on the Yukon by a travelling companion. A teacher named Edwards was killed at Kake village in 1891, while attempting to enforce the law in regard to the landing of whiskey; and in the summer of 1893, Harrison R. Thornton, a young missionary and teacher who, with his wife, was stationed at Cape Prince of Wales, was cruelly murdered by Eskimos, for which act there was no cause and which could have been prevented.

Measured from a religious point of view, the results obtained through the incessant and self-sacrificing labour of the missionaries of Alaska cannot be said to be entirely satisfactory to those whose interest has been awakened in the spiritual welfare of the natives of Alaska.

Thousands of dollars have been expended in the erection of buildings and the equipment of schools and churches, and in three notable instances, namely, Juneau, Sitka, and Unalaska, industrial schools have been main-

tained for several years, where children have remained until they learned some trade or occupation. While their educational progress has been satisfactory, they have been constantly under the influence of white associations, coming in daily contact with frequenters of the saloon and the dance-house, and many instances are known where young native women, upon leaving school, have quickly fallen into a life of dissipation and its accompanying evils.

The question has often been asked, how good results could be expected in the education of native children where the environments are such that even white boys and girls could not escape the allurements and temptations that have proven a pitfall to so many native children in Alaska.

There is one, and only one solution to this problem, namely, the abandonment of these institutions and removal to points away from white associations. Under these conditions, they will grow up and mature in an atmosphere of right living and good teachings, among their own people. There is nothing in common between the whites and natives of Alaska, and the happiness and contentment of one are not dependent upon the other, and will not be for several generations yet to come.

CHAPTER XI

PICTURESQUE ALASKA

THE tourist route to Alaska extends from Seattle to Sitka, and lies over a course which, for nearly twelve hundred miles, is almost entirely through narrow channels bordered by high mountains that completely prevent the sea from becoming rough. If an occasional glimpse of the waters of the North Pacific Ocean were not obtained, when passing from the shelter of one island behind the precipitous shores of another, one would never realise that he was enjoying all the pleasures of a sea voyage, with but few of the discomforts.

The vessels are large, comfortable, and convenient, and the appointments throughout are especially adapted for the sort of trip made; and every facility is afforded for complete enjoyment, and every opportunity given to see and learn all there is to discover on this greatest of tourists' routes.

The universal verdict of those who are so fortunate as to be able to take a trip to Alaska is that it is one round of charming surprises, and the scenery superior to that found in any other part of the civilised world. The masters of the steamers have all been on this route for many years, and they never forget, for an instant, to

afford the passengers every opportunity to see and enjoy to the fullest extent all sights and pleasures possible.

The most favourable time for making the trip is from the first of June until the last of August; yet a month earlier or later presents many opportunities for enjoyment. The long period of twilight which prevails in this latitude, in the spring and fall months, strikes one as strange, but an excellent view is often obtained in this subdued light.

The dry subject of enumeration of the articles needed on this trip may be abbreviated by the simple suggestion that one should carry such articles as are usually needed on a journey of two or three weeks, being careful to have clothing that is warm and suitable for an unusually rainy country.

Seattle, which bears the illustrious title of the Queen City of the North-west, is situated upon an indentation of Puget Sound, forming a perfect harbour, almost circular in shape, and named Elliott Bay.

It is a substantial, well-built city, having a population of more than seventy thousand, and it presents in every way the air and activity of a live, bustling, and enterprising city. Although founded 'way back in the fifties, the real growth of Seattle dates from 1889, when the entire business portion of the city was laid in ashes, and almost every vestige of the early ill-built town was swept away.

The business streets are lined with modern brick and stone blocks, elegant in construction and imposing in appearance. The city is modern in every respect. It has a magnificent system of water-works and sewers, is

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well lighted and has good streets, over which there is a complete network of street railways reaching to the different suburban towns, and to the many beautiful parks and lakeside resorts, for which the city is justly noted and which are the admiration of the tourist.

Lake Washington, the pride and delight of Seattleites, is a beautiful sheet of water, lying east of the city, about twenty-five miles long, and averaging three in width. Its shores are dotted with summer residences, and its bosom bears numberless pleasure craft of varied form and design, while many steamers ply the lake for commercial purposes. The lake is reached by four lines of street railways,—two cable and two electric. Adjoining Lake Washington, and but a short distance north, is Lake Union, a smaller but fine lake, surrounded by pleasant homes; and still another beautiful sheet of water is Green Lake, north-east of the city. All of these lakes contain abundance of trout and other fish. Sixty miles away, to the south, snow-covered Mt. Rainier raises its lofty head, standing hoary and magnificent. It overlooks the great inland sea called Puget Sound, and the many cities and villages that thrive upon its shores.

Among the numerous parks within easy distance of Seattle are Ravenna, Woodland, Madrona, Leschi, Madison Street, and Kinnear, beautiful natural parks to which art has lent completing touches. The city has excellent schools, and the different religious denominations are well represented, there being fifty-six places of worship in the city. There are also two opera-houses, the Seattle Theatre being one of the finest on the Pacific coast. The city is undoubtedly the commercial metro-

GREEK CHURCH AT SITKA, EXTERIOR VIEW.

polis of the North-west. It is the entrepot for an immense stretch of country rich in lumber, coal, and other natural resources; the wonderful shipment of lumber being the most important industry, although the coal business is large and steadily growing.

Tacoma, called by its citizens the "City of Destiny," is situated on Commencement Bay thirty miles south of Seattle, and is a point often visited by tourists en route to Alaska. Tacoma is an enterprising city of some forty-five thousand people, and has had a phenomenal growth. It is the second city in size and importance in the State and is modern in all respects, having many business enterprises, manufactures, electric and cable railways, schools, churches, etc. South of the city, about thirty miles distant, rises Mt. Rainier, but in Tacoma the name "Rainier" is never heard, except from a stranger or perhaps a Seattle man. Here it is lovingly referred to as "Mt. Tacoma," and the mountain with the dual name has been for years the source of much good-natured badinage between the two rival cities of Puget Sound, as well as a source of amusement and sometimes of perplexity to those not acquainted with the contention over the name of the grand old sentinel which overlooks the great inland sea.

A journey of forty miles on the waters of Puget Sound brings the vessel to its first stop on the route—at Port Townsend—having a population of thirty-five hundred people. It is most picturesquely located, having a beautiful harbour with water of sufficient width and depth to permit the largest ocean vessels to sail up to its wharves. The business portion of the town lies princi-

going through a brief guard manœuvre, while an occasional blast from a bugle echoes a call across the water from the English naval station of the North Pacific at Esquimalt.

When the steamer is again under way the journey to Alaska really begins, and the steady puffing of the engine and the vibration of the ship are felt for three days, while the six hundred and twenty-five miles before reaching the first stopping-place in Alaska, twenty miles across the boundary, are travelled.

It is not unusual, however, for the steamer to put in for coal at Nanaimo, a town about sixty-five miles north of Victoria, on the east side of Vancouver Island. Extensive deposits of a superior quality of bituminous coal are here located, large quantities of which are shipped to San Francisco and Alaska. About two thousand men are employed in these mines, and the coal is sold at three dollars per ton. Three miles north of Nanaimo, Departure Bay is also frequently visited for coal by Alaskan steamers. Vancouver Island is about three hundred miles long by about fifty wide, and is the largest of the many islands on the coast of the North Pacific. It is densely wooded throughout, and its sides in many places are high and precipitous. The dense growth of timber and underbrush is interspersed with many little streams of water which, flowing downward, together with the deep indentations extending inland, lend beauty and variety to the scene.

One hundred miles through the Gulf of Georgia, between Vancouver and Valdez Islands, the narrow pass—Seymour Narrows—is reached. It has a tremendous

current, and at ebb and flood tide is a veritable maelstrom, with whose swift-flowing waters the most powerful machinery is unable to cope. At low tide, a shattered series of rocky ledges are seen, with torrents of water rushing between and over them, and the whirling cauldron is enough to strike terror to the heart of the most daring navigator. The passage is always made when the tide is nearly full. The captain of an Alaskan steamer on one occasion lost control of his vessel here. It reeled and staggered as the mad waters lashed against its sides and sought to drag it into the boiling sea. It swept around in the torrent, but finally drifted into less turbulent waters and passed through without encountering any damage.

The United States steamer *Saranac* was wrecked here in 1875. She was caught in the rush of waters, but succeeded in reaching the shore of Vancouver Island, although, after her officers and crew had safely landed, she was drawn into the whirlpool and sank out of sight. The United States steamer *Wachuset*, seven years later, had an exciting experience in these waters, but finally stemmed the current and passed out, after having a portion of her keel swept off by the fierce current. Many smaller vessels were partially or wholly wrecked before the dangers of these Narrows became known.

Johnstone Strait for fifty-five miles, and Broughton Strait for fifteen miles—immediately to the north—both pass between land more or less abrupt, and the picturesque scenery encountered before Seymour Narrows is reached is again presented. Johnstone Strait opens into Queen Charlotte Sound, which for fifty miles presents

an expanse of water fifteen miles or so across, until it in turn meets the waters of Hecate Strait. The broad expanse of the ocean is seen only while the ship is speeding over the thirty-five miles intervening, before she enters the landlocked shores of Fitz-Hugh Sound. From here to the end of the inland channel at Sitka, the open waters of the ocean are not encountered, with the exception of fifteen miles at Milbank Sound, and again at Dixon Entrance, where, in a south wind, the water may become rough for an hour or so, to add, as it were, a little spice to the smooth sailing which might otherwise become monotonous.

Beginning here, the route is one continuous chain of labyrinthian passages, winding hither and thither through narrow defiles, with mountains rising many hundred feet on both sides, covered from base to peak with a dense coat of firs, whose outline is mirrored in the water below. "The Mystic Maze" would be an appropriate name to apply to this enchanted route. Ofttimes the prow of the ship is headed for what appears to be a mountainous barricade, but a sudden turn reveals a continuation of the pathway, and an outlet to endless charming nooks and glassy waters.

The first glimpse of Alaska after emerging from Grenville Channel into the waters of Chatham Sound, which separates British from American territory, is Tongas Island, the home of a tribe of natives scarcely numbering threescore, the remnant of a once numerous tribe. They occupy the site of old Fort Tongas which, during the first eight years after the acquisition of Alaska, was the headquarters of a company of United States troops. No

opportunity is afforded to examine the country in this vicinity save from the deck of the vessel. Thirty-five miles farther on Mary Island is sighted. The steamer blows a shrill whistle, the speed of the engine is slackened, and immediately the Stars and Stripes are hoisted upon the staff of the Custom House. As soon as the anchor is lowered, the captain goes ashore to execute such papers as are necessary to comply with the laws and enable the vessel to proceed northward. At this station a deputy collector is taken aboard, who makes the trip to Sitka and return, and whose business it is to see that no whiskey or other contraband goods are landed or taken on board the ship. An hour is spent here, when the machinery is set in motion and the vessel again swings on its course towards New Metlakahtla. This point is off the main route some fifteen miles, so it is only when there are goods to be discharged that the vessel pauses at one of the most interesting points on the whole journey. An approach to New Metlakahtla shows, quietly nestling on the side of a gentle slope of ground, stretching back from a long pebbly beach, two or three hundred houses, many of them neatly painted, with a church edifice, large school building, store, saw-mill, and salmon-canning establishment. There is nothing about the appearance of the place, until the faces of the residents are seen, to suggest that it is the home of the Chim-sy-an tribe of natives, whom Mr. Duncan brought from Old Metlakahtla a few years ago. Every branch of business pursued by whites, in towns of similar size, is here carried on, and the eight hundred and fifty or more people are thrifty and contented. In the chapter on the missionaries of Alaska, a

GRENVILLE CHANNEL, ON TOURIST ROUTE.

more extended reference is made to Mr. Duncan and the people whom he has brought from the degradation of savagery to a high state of civilisation.

Retracing its course to Tongas Narrows, the steamer runs alongside of the wharf at Ketchikan. Ten years ago this was the site of a salmon cannery which was afterwards destroyed by five. It is now a trading-post, and salmon are salted in large numbers. Should it be the season for the salmon to run, the little stream which flows down through the hills to the east of the village will be literally filled with the humpback variety. The first glimpse of the Alaskan Indian in his native state is obtained here.

A stop of an hour, and the steamer is ready to resume its course towards Loring. The twenty-five-mile distance is covered in about two hours, and the seat of what was, until the past five years, one of the most prolific red salmon streams in all Alaska is found picturesquely located on the western slope of a high mountain. For a number of years, from fifteen to twenty thousand cases of red salmon were packed each year by this establishment, but a system of trapping prevailed by which the fish were prevented from ascending to the lake above, and this has very nearly exhausted the species. The pack is now mostly of the humpback variety. Just back of the cannery, the sparkling waters of Naha Falls come thundering down fifty feet or more, and are considered the most beautiful of the many encountered along the tourist route.

At nine o'clock on the morning of the twenty-ninth day of August, 1889, the side-wheel steamer *Ancon*,

which had for several years been engaged in carrying tourists to Alaska, in attempting to swing around, settled upon a reef within a few yards of the shore and, when the tide receded, broke in two and became a total wreck. The passengers were taken on their journey a few days afterward by another steamer. The accident was the means of affording them several days of amusement, which they enjoyed to the fullest extent.

From Loring to Fort Wrangel about ninety miles of charming scenery is passed, but no stop is made in that interval. Wrangel is the most picturesque as well as largest settlement yet visited. It has reached the phase in history when it lives only in the glory of "by-gone days." For a number of years following the purchase of Alaska, it was the winter rendezvous of miners, who were taking out thousands and hundreds of thousands of dollars in placer gold, at Cassiar and other British north-west-territory mining camps, but these claims becoming exhausted, the life and activity of Wrangel also disappeared, until the summer of 1898 gave it a temporary boom. For a time it was thought that a practicable route to the gold fields of the interior would be found via the Stikeen River, and this village, which had so long remained dormant, assumed something of the life and activity of the old Cassiar excitement; the hopes of the old settlers were quickly dispelled, however, as the obstacles of river navigation and the long overland journey became known to the thousands, who preferred the perils and hardships of the more popular routes via Dyea and Skaguay.

To-day, a hundred or so whites and two or three hundred natives occupy, with few exceptions, the same log

buildings that were erected during the days when gold was almost as plentiful as water. Considerable business, however, is done here to-day. There are several stores whose customers are principally natives, with whom goods are exchanged for furs; a large sawmill; a bonded warehouse, through which British goods must pass before being shipped into the Territory, up the Stikeen River, four miles to the north-east; a Presbyterian church, and the offices of the United States Deputy Collector and Commissioner. Wrangel pursues the even tenor of its way, apparently satisfied with the present, and with recollections of its more varied past. This town was named for Baron Wrangel, who, in 1831, was the Russian governor. Here he constructed a fort, and his troops defeated a party in league with the Hudson Bay Company, who had encroached upon his territory to traffic with the natives. Soon after our acquisition of Alaska the fort was garrisoned by two companies of United States troops. The arrangement of the plat, with barracks and officers' quarters standing on either side of the square, gives evidence to-day of the time it was occupied by these representatives of the American army. Troops were withdrawn in 1870, but the garrison was again occupied by soldiers from 1875 to 1877, when all the troops were permanently withdrawn from Alaska.

It is usual for steamers going north to remain at Wrangel long enough to reach the entrance to Wrangel Narrows, twenty-five miles north, at high tide. This is, indeed, one of the most interesting portions of the whole trip. The passage through the Narrows covers a distance of twenty-five miles. At half tide, a hundred-ton vessel

drawing six feet of water could not make the passage on account of ledges of rocks and boulders stretched across the whole passage. "Hard aport!" "Starboard!" "Steady!" are constantly heard from the captain as the ocean steamer is turned close around the buoys that locate the shallow water and hidden reefs. While danger need not be apprehended, in case of accident in this passage, for the waters do not surge through with the force that causes Seymour Narrows to be dreaded, yet the alertness of the officers, and the caution exercised in piloting the steamer, arrest the attention of the passengers, and give rise to expressions of admiration for the skill of the mariners who have charge of the craft. Upon emerging from the Narrows a glimpse of the first glacier of any note is had. It bears the name of Patterson, and looms six thousand feet upward, while its serpentine form is seen winding over the mountain, and is finally eclipsed by the towering magnificence of the Devil's Thumb, pointing heavenward at an altitude of nine thousand feet. This, too, is lost to view, as the vessel bears westward to Cape Fanshaw, where the course is straight away for the metropolis of Alaska, seventy miles distant at the head of Gastineau Channel.

On the right, twelve miles before reaching Juneau, Taku Inlet opens into the channel. It is one of the favourite points of interest for tourists, and the glaciers winding down through the mountains are visible for a long distance and pour into the inlet with a front of a mile or more.

The metropolis of Alaska, Juneau, is located at the base of a mountain that rises almost perpendicularly for

nearly three thousand feet, forming a most picturesque background to this little city. Juneau is an ideal mining camp. Every building in the town, and every inhabitant, bears the aspect of activity and prosperity peculiar to live mining camps. It has but few streets, and they are crooked and narrow.

With but few exceptions, the inhabitants have not found time to clear their lots of the stumps or gnarled roots that litter, as well as make a rustic ornament for every dooryard. But there are a number of handsome residences and neat business houses; and a system of water-works that draws its supply from the purest of mountain streams, and an electric-light plant which for four months of the year gives way to the brilliant light of the midnight sun, taking its turn again for four months in the winter, excepting only a few hours at mid-day.

All roads lead to Rome, it is said, and all routes to this portion of Alaska lead to Juneau. Many Yukon miners come here to outfit for their long and hazardous trip into the interior; all travellers who visit South-east Alaska, whether for business or pleasure, feel that it is necessary to visit Juneau, and even the United States Court, if in session at Sitka, comes here for three-fourths of its jurors, without whom it could not transact business. Juneau is rightly called the metropolis. Whether she will retain this prestige, remains to be seen. If so, one of two things must occur. She must plane down the sides of her mountains or erect sky-scraping buildings with elevators to accommodate her populace, for nearly every foot of available ground is already occupied.

The population of Juneau numbers about three thou-

sand souls; and the enterprise of the people and volume of business done are shown by the support given to the two newspapers here published. The *Mining Record*, the oldest paper published here, is devoted especially to the mining interests of the country. It is a metropolitan-appearing journal in general make-up and contents, and is a credit to the city and its enterprising proprictor. The *Miner*, also an excellent publication, is more local in its character, and helps to make a keen rivalry between the papers which vie with each other in the publication of reliable information concerning this great Territory.

As the steamer turns on its course en route to Sitka, it retraces its way for twelve miles, and on the right, two miles from Juneau, passes the works which constitute the great Treadwell mine. Dense columns of smoke are seen issuing from the chlorination works which are here burning that part of the ore which the batteries have not been able to separate from the gold. Its poisonous vapours that the humid atmosphere has crowded down the mountain sides have bleached the timber growing there almost as white as the ragged and jagged ledges laid bare by the incessant explosions of dynamite that occur in this mine day and night from one year's end to another.

At the end of Douglas Island the ship's prow is turned northward towards Lynn Canal; but which arm it ascends, whether Chilkoot or Chilkat Inlet, depends upon the nature of the business calling the vessel thither. If to Chilkoot, a view is afforded of the new and thriving town of Skaguay, and a little farther on, its rival, Dyea, slumbers at the base of the mountains over which so

JUNEAU.

many thousands of eager miners encountered hardships and privations during the past year, in their eager quest for gold in the valley of the Yukon.

The neat and attractive buildings passed on the left-hand side journeying towards Skaguay, are those belonging to the Presbyterian Mission, known as Haynes.

If the steamer has taken the Chilkat Inlet, at the head of navigation, to the right hand is the town of Chilkat, whose location is marked by a cannery, store, and a few other buildings. Farther to the left is the route located by Mr. Jack Dalton, who discovered a way into the interior of Alaska, whence the Yukon River may be reached over a country having a gradual ascent and descent, with no high mountains to interfere, thus forming what is thought to be a natural route for the construction of a railroad into the interior.

As the ship turns about to resume her course, Davidson Glacier appears on the right. This is the first good view of a glacier yet had, and it looks as if a mighty river, winding down from the mountain, had suddenly congealed while pouring its torrents into the sea below. Davidson Glacier has its head a few miles to the west, and is a spur of a series of glaciers that form the frigid bulwarks of ice in Glacier Bay, whose fronts rise perpendicularly from the water. The Davidson, however, slopes gradually down, leaving a moraine covered with low willow and alder trees.

A distance of sixty miles to the south is made before the ship's course is changed into Icy Strait, and is now among floating ice, which may be encountered in such quantities as to impede the progress of the ship through

the entrance into the bay. The prows of all the vessels are protected with heavy timbers, and one experiences the shock caused by the crashing of the vessel into the bergs and floating ice as it pursues its course. When within the bay, it is in a sea of floating ice and the ship dodges its way through the heavy "pack" past Willoughby Island, until it comes to anchor within two miles of the front of the celebrated Muir Glacier. The island just referred to is named after "Prof." Willoughby, one of the early pioneers of California. As a boy he was in the vanguard of the "forty-niners"; picked up nuggets as large as walnuts at Suter's Mill with Marshall; moved along into Fraser River, Cariboo, and Cassiar mining camps; and was among the early placer miners in the camps of South-east Alaska. He piloted the first vessel into Glacier Bay, and was there when Professor Muir made his first investigation of the wonderful river of ice that bears his name.

Willoughby is a typical frontiersman. He is said to have made more extensive explorations in South-east Alaska than any other man, and to have found more good mineral deposits than he knows what to do with. His claims on Admiralty Island are among the most prominent quartz locations in the Territory, and the sale of this property will probably bring him more money than he will be able to spend.

The author's first visit to Alaska was in the spring of 1889, and was in the interest of newspapers. He was looking for just such a person as Willoughby to furnish him information about the country. This acquaintance supplied him with means for building up a series of let-

ters upon a subject that made them the most profitable newspaper articles he ever wrote, and which appeared in many of the leading papers of the country. One of these stories, entitled "The Silent City," helped to make Glacier Bay more noted, brought thousands of dollars to the person who claimed to have photographed a "mirage of an unknown city," and caused a vast amount of discussion on the subject of mirages. Many persons pronounced it a "fake," others a good joke, while some looked upon it in the light of a phenomenon that would reasonably occur on account of the peculiar condition of the atmosphere prevailing in this locality.

If the author thought the story a monstrous and ridiculous joke, gratitude to the man who furnished him with the sinews from which to weave the interesting tale would prevent his denouncing it as such. Two years previous to his arrival at Juneau, Willoughby had been exhibiting a negative of a picture which he said he had succeeded in taking of a city which appeared above the face of the glacier in the longest days of each year, and which was brought to his attention by the natives, who called it the silent city. He procured a camera, and in three successive years made the journey in a canoe with natives, and each time was able to make an exposure, but the plate exposed the third year proved upon development to be the only one that contained a picture of the city. It was a weird-looking negative and, contemplating it while Willoughby told the story with the utmost earnestness and sincerity, one could not but be interested and inclined to believe it to be true. He said that the city always appeared as if suspended in the air, just in front

of the Fairweather range of mountains. The atmosphere was so clear that the peaks many miles to the north were distinctly seen, and every ridge and wallow and curve of the icy crust that enveloped them could not have been more clearly defined had they been but a stone's throw away. That while asleep in his tent one morning, a native called to him excitedly to "get up"; and upon looking to the north he saw a strange-looking object hanging over the sides of the mountain, and following the direction of a stream or glow of light which seemed to radiate from the range squarely down upon the glaciers at the head of the bay. Gradually it became more distinct, and soon assumed the appearance of a city of immense proportions, stretching out into the distance until its farthermost limits were lost to view. The style of architecture was new to him. Buildings of massive dimensions extended in solid and unbroken blocks as far as the eye could reach. The solemn walls of cathedrals arose almost to the skies, and his imagination revelled in silvery music that was wafted out through the openings of gorgeously painted windows. The entire limits of the city were confined within a halo of light, dense, yet transparent, pouring its soft glow upon roof and wall and window in glorious transformation. To the right and left a range of mountains, covered with the garb of winter, formed the background. Again, he seemed to hear the bells from the steeples of a hundred churches mingling sweet and happy melody; yet, within the whole length and breadth of this boundless city, not one soul could be seen. Not even a shadow darkened the light for an instant. All was silent as the grave, when suddenly the

THE SILENT CITY.

vision began to move away. Its glories and grandeur lured him with a fascination which he could not resist. But, as he walked forward, it seemed to recede with even pace. Gradually, though he quickened his steps to get within the silent portals before it was too late, it was wafted into space and finally lost to view.

In the summer of 1889, the author accompanied Willoughby to Glacier Bay, and spent six weeks in exploring the glaciers and surrounding country. He was anxious to see the spot where Willoughby claimed to have witnessed this wonderful sight, although he feels free to say he did not live in very high expectations of gazing upon the silent city. One day we ascended the side of a mountain to a level space affording a glorious view of the whole bay. Willoughby led the way to a pile of rocks, laid carefully one upon another to a height of perhaps five feet. Slowly he commenced to throw off rock after rock until an opening was made in the centre, and, inserting his arm, he drew out what appeared to be a scroll or book made from several leaves of birch bark. It was badly mildewed, and upon unrolling it a pencil fell to the ground. The half-dozen pages looked bright, however, and contained a record stating that the object of three trips made to this locality, in as many different years, was to secure a photograph of the city.

During the six weeks the author spent with Willoughby, the relations between them in camp and in their travels were such as to encourage an exchange of confidences on many subjects, and although the subjects of "The Silent City" and mirages were often referred to, Willoughby never by word or implication gave him any

reason to think that his story was other than a true one.

The city was finally identified as Bristol, England. In order for it to have appeared in the manner claimed, it must have been reflected a distance of several thousand miles.

And now, after a lapse of ten years, Alaska's " Silent City " has emerged once more from the mysterious shadowland and revealed itself to five members of the party who accompanied Prince Luigi in his ascent of Mt. St. Elias in July, 1897.

One of the party, Mr. C. W. Thornton of Seattle, in his note-book remarked that " it required no effort of the imagination to liken it to a city, but was so distinct and plain that it required instead faith to believe that it was not in reality a city."

This party, however, viewed the effect from Malaspina Glacier, one hundred miles to the west of Muir Glacier, and their enthusiastic description lends reality to our vision of " The Silent City."

The awful grandeur of Muir Glacier is inexpressible, whether viewed while walking on its top among the thousands of seams and crevasses that descend in yawning chasms to interminable depths, or looking at it from the deck of our vessel. If viewed while standing close to the front, the awful, jagged surface is seen extending two miles across, rising in pinnacles and towers two hundred and fifty feet high. Is it any wonder that, when gazing at this spectacle, one is lost in awe as he sees a solid body of ice winding for many miles through mountain gorges, breaking off in irregular blocks, many of them a hundred feet square, and tumbling into the water below ? Is it

FRONT OF MUIR GLACIER.

FROM A PHOTOGRAPH BY LA ROCHE, SEATTLE, WASH.

any wonder that the crash and thundering echo can be heard for miles ? Is it any wonder that the bottom of this grand inland sea is a hundred fathoms or more deep, when such huge sections of ice, falling from dizzy heights, send the spray nearly to the top of the glacier as they go ploughing onward towards the sea ?

The author has seen a single block of ice measuring at least four hundred feet square, with forty feet extending above the water, silently moving down the bay. Fresh-water ice is said to float with seven-eighths below the surface, so in this instance the berg must have been three hundred and twenty feet thick.

Among glaciers, nature is seen in its grandest, most awful, and sullen mood. The continual caving leaves the glaciers with lacerated fronts that assume the shape of obelisks, pinnacles, and turreted roofs of castles, set with a background of blue; when touched with the rays of the sun, they send back the hues of the topaz, diamond, and sapphire in sparkling scintillations.

How many years shall elapse before the last of the glaciers disappears from the bay can hardly be calculated, but they are slowly receding and will, before many years, become a wonder of the past. There are ten other living glaciers as large as the Muir in the bay, besides a number of smaller ones, and at the extreme northern end is one nearly as large again as the Muir. On the coast 250 miles west from Sitka, the great Malaspina Glacier presents a front of over twenty-five miles to the sea. A few miles farther west they almost entirely disappear, and are only found in a few localities just back from the coast.

The day spent in Glacier Bay ends only too quickly,

but the ship must travel one hundred and fifty miles farther before reaching the terminus of the route, at Sitka. Nearly one hundred miles of this course is due south, then the ship turns to feel its way for thirty miles in Peril Strait. This stretch of water is, as the name implies, a difficult and dangerous passage, and is attempted only in pleasant we her. The water surges and rushes at the rate of six or eight knots an hour, and like Seymour Narrows, is run only at high slack, or between that and high water. Its path is strewn with rocks and reefs, and its swiftest water points are designated as Upper and Lower Rapids. At least two officers of the ship are always on the bridge, for here, as everywhere throughout the long journey through the inland waters, their keen vigilance is never for a moment relaxed.

Twenty miles more and the booming of the cannon from the deck of the steamer warns the passengers that another port is reached. Its sullen roar echoes among the hills and announces to the inhabitants that another "steamer day" is at hand. Another messenger from civilisation has knocked at their doors, bringing anxiously looked-for tidings from home and friends to those who, from choice or circumstance, have found an abiding-place upon our most remote frontier.

Sitka became the capital of Russian America under the administration of Alexander Baranoff, who served as Governor of the Russian colonies from July 27, 1791, until January 11, 1818, his predecessor, the first Governor, having served from August 3, 1784, until July 27, 1791. The seat of Government at that time was at Kadiak, Kadiak Island, five hundred miles west of Sitka.

CREVASSE ON TOP OF MUIR GLACIER.

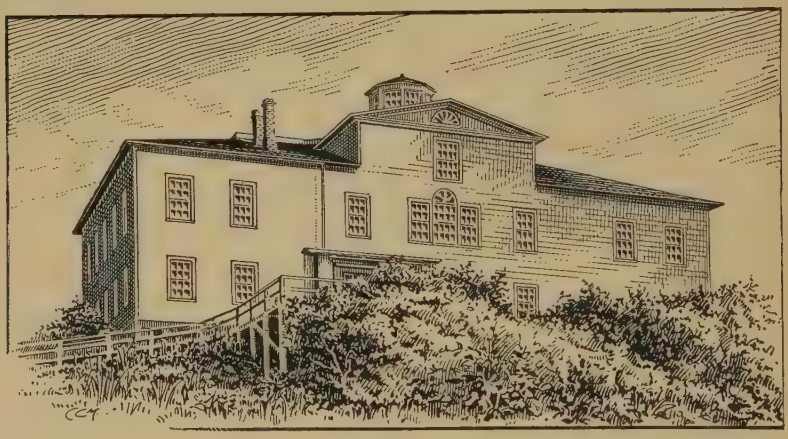
FROM A PHOTOGRAPH BY LA ROCHE, SEATTLE, WASH.

The especial point upon which the interest of the tourist centred in Sitka was Baranoff Castle, built by the Governor in 1813. It was situated on the top of a hill and commanded a view of the broad expanse of the ocean and of the beautiful harbour, which is studded with many small islands covered with the freshest of evergreen trees and a profusion of the loveliest and brightest verdure. The channels between these islands admit of the passage of the largest ocean steamers, and on a sunshiny day the view is most charming.

The castle, an imposing structure, built of logs of huge dimensions, was divided into capacious rooms. On one side was a banquet hall running the whole length of the building, and here, during the occupancy of the Russians, many wild scenes of revelry were enacted. In order to preserve this structure from decay, our Government expended $11,000 five years ago, but just after the work was completed it took fire through some mysterious cause and was burned to the ground.

Many stories are told, some of them replete with wild romance and crime, of early days when Russian barons and beautiful princesses passed days and nights within the castle in joyous living. It is said that Olga Arbuzoff, a niece of Governor Mooraveff, committed suicide by thrusting a dagger into her heart on the fifth day of March, 1826, the very day of her marriage to Count Nicholas Vassileff. The count was old, ugly, and of coarse morals, and the lovely princess very naturally hated him. Her uncle, however, compelled her to marry him, though she insisted that she would take her life if he persisted in his demands. The princess was very

much in love with a midshipman named Demetrius Davidoff, who was young, handsome, and an accomplished gentleman, and whom the governor, when he found they were in love with each other, sent away on a six months' cruise. In the meantime the nuptials between the princess and the count were hurried to a consummation. The very night of the wedding the young lover returned and went immediately to the castle. As



BARANOFF CASTLE.

soon as the princess saw him she uttered a cry, and rushing into his arms, snatched his dagger from its sheath and plunging it into her breast, fell to the floor dead. The horror-stricken youth immediately drove it into his own heart and fell dead by the side of his sweetheart. The following day they were both buried in the same grave. From one of the windows in the banquet hall of the castle, their last resting-place was pointed out, marked by a simple Greek cross standing at the head of the mound.

SITKA HARBOUR.

The white population of Sitka does not exceed five hundred, including the actual residents, territorial officials, and members of the naval force here stationed. The natives number about nine hundred and occupy a portion of the town known as the "ranche."

The Greek church, with its dome painted blue and chime of bells, stands at the head of the street. It is a striking and rather imposing structure, but its most interesting feature is found inside. The altar decorations and the doors separating the inner sanctuary from the body of the church are truly gorgeous. The paintings of the Madonna and other biblical figures are superbly set in silver and gold. Many of the natives are members of this church, and the ceremonies are of an interesting and unusual character, the congregation standing and kneeling alternately during the service.

About a half mile south, the Sitka industrial school is located. It is an institution where native children are taken in youth and taught various trades. It is supported by the Presbyterian Missionary Society, the general government assisting in the expense of maintaining it.

One of the most interesting places to the tourist at the Alaskan capital is the Museum, near the industrial school, containing one of the largest collections of Alaskan curios in the United States.

The Alaskan is the oldest paper in the Territory, and being published at the capital is much sought after by people abroad, for information regarding the progress of the Territory.

Looking across the bay at Sitka to the north, Mt. Edgecombe, an extinct volcano, is plainly seen with the

mouth of the crater clearly defined at the summit. An excursion to the mountain and into the crater, five hundred feet deep, forms a very interesting trip, but can hardly be made during the one day's wait of the steamer. The ascent of Mt. Verstovoi, which forms a beautiful background to this picturesque town, can be accomplished in two or three hours, and the view obtained from the summit well repays one for the effort.

From the summit of Mt. Verstovoi, the eye follows the stretch of the great unknown country far to the westward. The tourist has never visited it, and as the steamer floats out from the peaceful Sitka harbour "homeward bound," the "far off unknown" is seen to fade away in solemn beauty.

Farther to the west, the Malaspina Glacier appears on the Pacific, spanning the coast with an icy bulwark at the base of Mt. St. Elias. This hoary peak rears its crown of snow 18,000 feet towards the sky, a regal sentinel, guarding the rugged coast from the rushing waters of the mighty Pacific; and still beyond, one is ushered into the presence of the burning craters of the Aleutian Archipelago; nor even here do the glories end, for they extend to the very threshold of the bleak, unknown Arctic waste; there the mysteries of land give place to the ever-changing tints and hues of most gorgeous twilight, fringed by the scintillating rays of nature's grandest panorama, the northern aurora.

By and by this region will be opened up to the pleasure seeker, when it will afford a fitting climax to a tour of the grandest scenic route in the world, that which threads the mystic mazes between Puget Sound and Sitka.

CHAPTER XII

ROUTES TO THE INTERIOR

HOW to reach the gold-fields of the Yukon and its numerous tributaries is a question of great importance.

The most natural rendezvous on the Pacific coast for all persons embarking to Alaska, is Seattle, State of Washington.

The all-water route is direct from Seattle to St. Michaels, eighty-five miles from the mouth of the Yukon, via ocean steamers, and from St. Michaels up the river by light-draft vessels which operate there. From Seattle also, there is constant water communication by the steamers of the numerous transportation companies with the already celebrated trails leading by the overland routes through Chilkoot and White Passes—(the former known as the Dyea, the latter as the Skaguay trail)—on, up, and over to the Klondike and the many other tributaries of the Yukon.

Dyea or Chilkoot Pass Route

The Dyea trail is preferable to all others for the inward journey. The distance from salt water to the lakes or

headwaters of the Yukon River over this trail is about twenty-seven miles.

The most favourable time for going into the interior is before the snow melts from the mountains, which does not occur until about the middle of April. The journey over what is known as the Summit is better accomplished by hauling supplies on sleds. After the Summit is passed, if the journey is continued before the ice breaks up, long distances may often be made by means of sails raised on improvised masts on the sleds.

After the ice has disappeared, canoes may be used for the first six miles after leaving Dyea. From this point the route lies through what is known as the Canyon. Quite a gradual ascent is made until Sheep Camp, which has become a favourite rendezvous for miners, is reached. Here a rest is taken to await weather suitable for the passage over the Summit, six miles farther up the rugged sides of the mountain, and the most difficult and tedious part of the journey. Two miles before reaching the Summit, is a level tract of about an acre known as the Scales. This is the point where the Indian packers formerly weighed the goods to be taken over the Summit.

From the Summit to the head of Lake Lindeman, nine miles must be travelled. It is down grade and practically easy to accomplish with snow on the ground, but when bare, it is quite difficult on account of rocks and boulders. So much so in fact, that pack-horses cannot be used to advantage except for the last two miles of the distance. The route is easily followed by keeping in the Canyon.

Lying between the Summit and Lake Lindeman are

YUKON MINERS AT SHEEP CAMP.

FROM A PHOTOGRAPH BY WINTER & POND, JUNEAU, ALASKA.

three small lakes, known respectively as Crater, Long, and Deep Lakes, which are utilised in summer in ferrying miners' outfits. The charge for ferrying is one cent per pound over each lake, the miner portaging his own goods between them.

At Lake Lindeman the overland portion of the Dyea trail terminates. It was the only route used to any extent for many years, the Indians having always followed it and packed over it in preference to all others. Many Indians found employment packing outfits over the trail at prices ranging from fifteen to thirty-eight cents per pound, the latter figure representing the maximum price paid in the rush during the summer of 1898. But this expensive item was reduced during the season, by two cable tramways over the Summit from the Scales to Crater Lake, a distance of three miles.

The overland portion of the Yukon journey having been accomplished, the first of the chain of lakes forming the headwaters of the Yukon is Lake Lindeman.

The timber in this locality is sparse and of poor quality for boat-building. If rafts are built, they should be constructed in a manner that will afford protection from water a foot or more above the sides. Otherwise the supplies are liable to be damaged unless at the outset of the journey they have been carefully enclosed in oilskin sacks.

From the head of Lake Lindeman on both sides to Lake Bennett, the general character of the country is mountainous with narrow bench land skirting the shore. The distance across Lake Lindeman is nearly five miles, and from the foot of this lake a portage of fifty yards is

made of the One Mile River to Lake Bennett, because this portion of the stream is very swift and crooked and full of rocks, making boat passage difficult and dangerous.

At the head of Lake Bennett, there are high mountains on both sides, but they begin to flatten out towards the foot of the lake. This lake is twenty-four miles long. By ascending a river, which enters the lake from the west, timber suitable for boat-building is to be found, and a small saw-mill is in operation. The mill turns out boats for sale. In ordinary seasons the prices range from $75 to $150 for boats, but prices go up when labour and logs become scarce. During the season just closed it was an every-day occurrence for boats to sell for $150 and upwards.

Flat-bottomed boats with flaring sides are generally built, because this style is more readily handled in the swift water which will be encountered farther along the route, and because of the greater carrying capacity. No boat should be less than twenty-six feet long, and thirty feet is a more desirable length, because such pass the swift places more safely and easily.

In the spring while the ice yet remains on the lakes, the boat and outfit may be loaded upon sledges and drawn for many miles. Some sled to the lower end of Lake Le Barge where they build their boats and await the breaking up of the ice in the river. Excellent timber is found here. When the ice breaks up at this point, it goes out quickly, and the journey down the river may begin at once. The ice in the lakes above will remain much longer. Thus the object in sledging to this point is readily seen.

YUKON MINERS SLEDDING OVER ROUTE.

FROM A PHOTOGRAPH BY WINTER & POND, JUNEAU, ALASKA.

If the wait for the ice to go out is at Lake Bennett, the right shore of the lake should be followed until Three Mile River is reached. At this river, which is the connecting water between Lakes Bennett and Tagish, a trail once used by a band of cariboo can be traced along the foothills for a distance of two miles, giving to it the name of Cariboo Crossing. Follow the main channel of Three Mile River to the head of Tagish Lake, and then keep the left-hand shore to the foot, a distance of nineteen miles.

Little Windy Arm, located at the upper end of Tagish Lake, and Big Windy Arm at the lower end are somewhat dangerous places to cross, as strong winds are liable to spring up suddenly, especially during the fall season. It is safer then to make the crossing before nine o'clock in the morning, as the winds are always quieter in the early hours of the day.

At Tagish Lake is stationed a Canadian customs officer to whom import duties on miners' outfits must be paid. Canadian duties average from twenty-five to thirty per cent. ad valorem. The officer has more or less discretionary powers. During last season, under instructions from his Government, the duties were very light, averaging but seven dollars to twelve dollars per outfit. The officer is assisted by a detachment of mounted police.

Lake Marsh is connected with Tagish Lake by a wide river with a slow current, whose banks are bordered by low-lying slopes, timbered with cottonwood and white spruce. The distance is six miles, and in some places the water is very shallow. The traveller should follow the left bank of Lake Marsh into the river connecting

this with Lake Le Barge, keeping on the right-hand side, to the head of the Canyon twenty-five miles below. If a man is a skilful navigator he can run his boat through the Canyon, a distance of three-fourths of a mile, and land on the right-hand side. If not, he had better make a portage. From this point he should follow the left-hand side two miles to the head of White Horse Rapids and land on the left-hand side. Great caution should be exercised in reaching the point where the landing is made this side of the White Horse. Through the White Horse one-half mile, in a low stage of water, the boat can be dropped with a line, but if the water is high, a portage of about one hundred yards must be made, and on the last pitch of the Canyon another portage of about one hundred feet will be necessary. From this point there is an open river to Lake Le Barge.

From the head to the foot of Lake Le Barge is a distance of about thirty-one miles averaging five miles in width. The boat should be headed straight for an island near the centre of the lake, and, if the weather is favourable, cross from the island to the right-hand side of the lake. From the island, the traveller should cross to the left-hand side of the lake, if windy, and it is better to follow close to the shore. From the foot of Lake Le Barge to the mouth of the Hootalinqua River, extreme caution should be observed in navigating Thirty Mile River, as the water is very swift and in places barely covers dangerous rocks. From this point it is clear sailing for one hundred and thirty-three miles to Five Fingers, so called because of five columns of rock which partly obstruct the river, and whose outline resembles

YUKON MINERS PACKING OVER ROUTE.

FROM A PHOTOGRAPH BY WINTER & POND, JUNEAU, ALASKA.

the fingers of the human hand. Five or six miles before reaching Five Fingers, the current becomes much swifter and high hills hug the shore. The right-hand bank should be followed closely, otherwise the bend curves so sharply that Five Fingers would be reached before a landing could be effected. This landing should be made twenty yards above Five Fingers in an eddy, and if the boat is heavily laden, it should be lightened before attempting to pass; the run should then be made, landing on the right-hand side.

Following the right-hand shore for about five miles, Rink Rapids, one and one-half miles in length, caused by a chain of rocks extending nearly across the river, are reached. The right-hand side or east shore must be followed closely all the way. From this point, the river is easy to navigate to its mouth. About fifty-five miles below the foot of Rink Rapids is old Fort Selkirk. It is situated near the confluence of Pelly and Lewes Rivers, which unite to form the Yukon River. This is a winter port for steamboats plying on the Yukon and its tributaries. The fort was pillaged and burned by the coast Indians in 1853, and nothing remains but the ruins of the chimneys.

From old Fort Selkirk the river has a uniform width, contains many islands, and the country through which it runs is well timbered for some distance. White River, a large stream having a current of ten or twelve miles an hour, comes roaring down from the west ninety-five miles below Selkirk. The river gets its name from the appearance of its waters, which are of a muddy white hue. It is supposed to have its source in a number of high moun-

tains and lakes to the west. Near its source, the Indians say, there is an active volcano which they call Smoky Mountain.

The Yukon rapidly widens after being joined by White River, at which point it is a mile across; islands dot its surface at frequent intervals, and the valley becomes broader. Ten miles below White River, Stewart River enters from the east. Its waters, dark and deep, are bordered by rugged hills which here and there assume the proportion of mountains. Miners are found on this river and its numerous tributaries and gulches, many of which are unprospected. It is probably six hundred miles in length.

About seventy miles below the mouth of Stewart River, Sixty Mile Creek comes in from the west. It has a trading post and saw-mill, and prior to the discoveries on the Klondike was a winter rendezvous for miners. The creek has a swift current and is filled with rapids, and is therefore not easy of ascent. Below Sixty Mile Creek, the Yukon becomes placid and the number of islands increases. The valley narrows and the hills are more abrupt.

From Sixty Mile Creek to the mouth of the Klondike, the distance is sixty-one miles. Here is located the town of Dawson City, which is the gateway to the Klondike mines on the tributary streams above. As soon as the marvellous gold discoveries became known to the miners of the other camps, the towns of Forty Mile and Circle City were nearly deserted. Dawson City sprang into life as the metropolis of the great Yukon basin, and in a few weeks became a typical western mining camp in every-

YUKON MINERS AND NATIVES PACKING OVER ROUTE.

FROM A PHOTOGRAPH BY WINTER & POND, JUNEAU, ALASKA.

thing except the lawless element. The town, being within the boundary of North-west Territory, is practically ruled by the Gold Commissioner of that province. His word is law to the extent that he decides and settles all disputes, from the ownership of million-dollar mining claims down to who shall have the right to cut the wood from a square rod of ground. His rulings are quick and to the point. There is no mining license issued at Dawson City. In its place a fee of $15 must be paid when a claim is recorded, making the title good for the first year. This the Gold Commissioner collects, as well as all subsequent fees. No person is permitted to cut grass for his pony, spade the ground for a garden, or chop down trees for logs or wood, or undertake any enterprise, large or small, without first paying a fee and securing a permit.

The mounted police rule the camp with a hand of iron. No riots ever threaten and the lawless element is never permitted to get a footing. The police enforce the wishes of the Provincial Government as directly expressed by the Gold Commissioner.

Once at Dawson, the new arrival must determine his course for fortune seeking. He may secure work at wages ranging from $5 to $12 per day, or he may penetrate the unexplored gulches in search of a "strike" of his own. And here it may be well for the newcomer to understand that if he expects to work at one of the mines, it would be well for him to carry his own food, for the scarcity of provisions at times has compelled the owners of claims to hire men with the understanding that they board themselves, and this condition is liable to prevail at any time in the mining camps of Alaska.

If the prospector is successful in discovering a new "creek," he is entitled to two claims, the one on which the discovery is located and the next one to it. Otherwise he is entitled to but one claim by location in a single district.

Steamers do not start from Seattle until June 1st at the earliest, and Dawson cannot be reached before the middle of July. As the working season opens about the 1st of June at the mines, it will be seen that six weeks of the short season, when prospecting can be done, is lost in going via St. Michaels.

Continuing the journey down the Yukon from Dawson, at the mouth of Forty Mile Creek, located almost within the shadow of the Arctic Circle, is the Alaska Commercial Company's station, Forty Mile. The town has a population of about five or six hundred, and besides the Alaska Commercial Company's store, which at the opening of the season carries a stock of goods valued at $125,000 or more, there are restaurants, a billiard-hall, saloons, an opera-house, barber-shops, and the town boasts of the finest residence in a region covering three hundred thousand square miles of territory. It is a two-story building, owned by Joseph Cooper, an old-time Colorado miner, and cost $3000.

"This town on the Yukon," says a recent writer, "is an ideal '49 mining camp; its saloons, gambling houses, concert halls, etc., give it an air of bustling activity, from which, however, the element of outlawry is almost entirely eliminated. Miners' law prevails and justice is fairly and impartially administered. The entire valley bears an enviable reputation for peace and morality. Simple but effective self-adopted rules of government are found amply sufficient to insure order, and they are universally respected."

YUKON MINERS AT STONE HOUSE.

FROM A PHOTOGRAPH BY WINTER & POND, JUNEAU, ALASKA.

About three-fourths of a mile below Forty Mile, is a rival town named after Cudahy, so well known throughout the country as a packer of meats, and who is a member of the North American Trading and Transportation Company. This post was established in the summer of 1892. The same company has established a number of posts at different points on the river, some of which had not heretofore been covered by the Alaska Commercial Company.

About one hundred and seventy miles from Forty Mile, to the west, the Yukon flats are encountered, and just within them is located the mining camp of Circle City, which was founded in the fall of 1894. It is the distributing point for the vast regions surrounding Birch Creek, which flows into the Yukon two hundred and twenty-five miles below. Circle City has been platted into streets, and a recording office for this district is located here. Six miles westward from Circle City, a portage of six miles carries the traveller to the headwaters of Birch Creek, nearly two hundred miles above its mouth.

The territory drained by the Yukon River in every direction for three or four hundred miles in this region is low country, called the Yukon flats. These flats, the extent of which is not known, are supposed by miners and others to have at one time formed the bed of a vast lake.

Munook Creek, upon which gold was first discovered, in 1897, enters the Yukon below Fort Yukon. It is the next gold-bearing creek of importance below the mouth of Birch Creek.

The indications of rich deposits in the Munook district are strong, and several claims have yielded excellent results. The coming season's clean-up will have to be known, however, before it can be determined whether or not it is as rich as some of its enthusiastic claim-owners bespeak for it.

The principal tributary of the Yukon below Birch Creek is the Tanana River, probably eight hundred miles in length, and having a number of other streams of considerable size flowing into it. The Tanana drains the country stretching from the head of the river, and the Yukon to the White River on the south. The Tanana River has been very slightly explored, and little is known of it or of the natives who inhabit its banks. They are, however, reported by the few venturesome prospectors who have made their way into this section, to be rather ill-disposed towards the whites invading their territory.

Nuklukyeto is located at the junction of the Tozikakat River with the Yukon, where the Alaska Commercial Company has a trading post which was established a number of years ago.

About two hundred and fifty miles below the Tanana, the waters of the Koyukuk River join the Yukon, from the north. Below the Koyukuk River, the only streams of any importance that empty into the Yukon, are the Innoko, coming in from the south, and the Anvik, about thirty miles farther down, which enters from the north.

The only station at which the ocean steamers, having freight or passengers for the upper Yukon, land, is St. Michaels. This has been the principal trading post

YUKON MINERS AND NATIVES AT SUMMIT OF CHILKOOT PASS.

FROM A PHOTOGRAPH BY WINTER & POND, JUNEAU, ALASKA.

of the Alaska Commercial Company and the outfitting post for its station on the river for the past thirty years. It is located about eighty-five miles to the north of the usual entrance to the Yukon, on what is known as St. Michaels Island.

The question is often asked why a location for a town has not been made nearer the mouth of the river, thus obviating the necessity of the river boats steaming into the open waters of Bering Sea to take on their freight. So far as known, there is not a suitable location nearer the mouth of the river that the high water, on the breaking of the ice in the spring, does not overflow. The Yukon is very shallow at its mouths, eight feet being the greatest depth found.

All sorts of rumours have been afloat during the past season to the effect that a new channel had been discovered through which a vessel drawing twelve feet of water could safely enter and then proceed for several miles up the river. While there may be some truth to this, we are not prepared to accept it, for up to the close of navigation last fall, such a channel had not been located. The Alaska Commercial Company attempted to find such a channel during several different seasons without success.

The ice passes out of the Yukon and leaves it free for navigation about the middle of June, but it does not clear for an approach to St. Michaels until several days later.

St. Michaels is what might be termed a "summer town." Until last year, its population for nine months of the year consisted of about one hundred and fifty

natives and a score or so of whites. When navigation opened in the summer, missionaries and traders from long distances congregated here, and until the last steamer departed for the States, about the middle of September, Uncle Sam's most remote town presented unusual scenes of life and activity.

With the excitement attending the discovery of gold on the Klondike, St. Michaels became at once conspicuous as the objective point for the thousand and one steamship and transportation companies that sprang up like mushrooms in the night.

On October 27, 1897, an order was issued by the Secretary of War, setting aside St. Michaels as a military post, and the country for a radius of twenty-five miles therefrom as a Government reservation.

During the past season the Alaska Commercial Company made extensive improvements here, erecting wharves, hotels, warehouses, and store buildings; the North American Trading and Transportation Company, a quarter of a mile to the west, made extensive improvements of a like character, which location was named Healy in honour of the original projector of the company; three-quarters of a mile farther to the south-east, the Alaska Exploration Company, otherwise known as the "Liebes" Company, selected their location, and all along the beach, buildings were erected by individuals and companies for trading and transportation purposes in anticipation of extensive and permanent business arising from the gold discoveries along the Yukon River and streams tributary thereto.

The establishing of a military post at St. Michaels

YUKON RIVER THROUGH THE CANYON.

brought with it a company of soldiers who regularly patrol and garrison the island, thus placing it under military control, and the discipline is thorough. During the stirring and exciting events which occurred here in the summer of '98, when hundreds of people were here stranded, and much discontent and dissatisfaction was created through the failure of companies to carry out their contracts, scarcely an instance of lawlessness was reported.

The Yukon River, with its many tributaries, a number of which can be navigated by light-draft steamers for several hundred miles, traverses an empire. It is navigable by 400-ton stern-wheel boats drawing four feet of water, for a distance of 1850 miles from its mouth, or to the mouth of the Pelly River. It flows into Bering Sea through several different channels, that farthest north being nearly one hundred miles distant from its most southern artery. Its course is westerly, but bends north to the Arctic circle when about midway across the Territory. At the junction of the Pelly and Lewis Rivers, it has an average width of perhaps three-quarters of a mile until it reaches Fort Yukon, where it is about eight miles wide, and again narrows to about three miles at the mouth of the Koyukuk River, and maintains this width to Koserefski; from this point it again widens to eight or ten miles and carries this width towards its mouth.

The navigable tributaries of the Yukon for small, light-draft boats may be grouped as follows:

The Andreafski for 50 miles; Shagluk Slough, 50 miles; Innoko, 50 miles; Tanana, 300 miles; Klanarcher-

gut, 25 miles; Beaver Creek, 100 miles; Birch Creek, 150 miles; Koyukuk, 300 miles; Porcupine, 100 miles; Stewart, 300 miles; Pelly, 50 miles; and the McMillan, 200 miles.

While the Yukon is navigable for a distance of 1850 miles with a 400-ton vessel, a 100-ton steamer with powerful machinery would be able to warp through Rink Rapids and Five Fingers, and thence three hundred miles farther through Hootalinqua River to the head of Teslin Lake.

The Skaguay or White Pass Route

The Skaguay trail sprang into prominence in the summer of 1897. It was built by a British corporation ostensibly to secure a sole charter from the Canadian Government for the construction and operation of a railroad and trail over the country included in British territory.

It begins with a waggon road starting from Skaguay Bay, which is an inlet of Lynn Canal, three miles south of Chilkoot Inlet. The waggon road leads through the level valley of the Skaguay River for about three miles. Half a mile up the road the river is crossed by fording, and is more or less dangerous owing to the swiftness of the current.

From the end of the waggon road the ascent begins, and a very trying climb it is. Once upon the first bench, there is a most beautiful little lake, the winding course of which is traversed to the base of Porcupine Hill, a half-mile away. The ascent of this hill is made by switchbacks, very short and steep. At the top is a cause-

UNLOADING FREIGHT FROM BARGE AT SKAGUAY.

way which marks the place and looks as if it was carved out on purpose for a trail or road. The descent to Porcupine Creek, on the other side of the hill, is more steep and dangerous than the ascent. Now another climb up a higher mountain begins. The opposite side of the canyon of the Skaguay River presents a very rugged, weird picture. The highest point of the hill is just opposite a waterfall fifteen hundred feet in descent. About two-thirds of the way down it divides into three streams, and the passing miners accordingly christened it "Pitchfork Falls." The next descent is to the first bridge on the Skaguay River. For two miles the trail crossing the eastern shore leads through a comparatively level but miry tract of country. Then two more crossings by means of bridges are made over the river within the space of three-fourths of a mile. The second of these bridges is designated as the "Last Bridge." It is situated at the foot of Big Hill, the most difficult mountain climb on the route. This mountain is long and steep and the sides contain many muddy places. The descent to the river is precipitous and short.

Foot-passengers may avoid this hill by turning to the left after crossing the Last Bridge and following up the river on a trail known as the Cutoff. It was utterly impassable, large rocks, boulders, and ledges obstructing the way, and it was thought they could be removed by blasting. Mr. Sylvester Scovel, the famous correspondent of the New York *World*, sought to undertake this task, in the summer of 1897, and announced a donation of $1500 on behalf of his paper, which sum was considerably increased by private subscriptions. Mr. Scovel

returned to New York before the work was completed, however, when it was understood the *World* had abandoned further interest in the project.

From the point where the Cutoff trail rejoins the main trail the route continues along the river, over dangerous rocks and sharp grades for about one mile, where the river must be forded at the foot of the Summit. The ford is in the widest part of a series of rapids, and difficulty in crossing is avoided only by the exercise of great care.

When once across the river, an altitude of 2300 feet to the Summit is reached by a gradual ascent.

From the Summit to Lake Bennett the trail follows an open but rugged and barren valley for about seventeen miles, through which lies a chain of lakes, three of which, Summit, Middle, and Shallow Lakes, may be used in transporting freight in canoes if packing around them is undesirable. The trail from Shallow Lake to Lake Bennett, about nine miles long, is through a forest, small in growth, part of which was destroyed by fire years ago. Within this forest there are scores of bogs and deserted beaver marshes, which make the passage with pack animals extremely difficult. The trail leads to the lower end of Lake Lindeman and intersects the Dyea trail at this point. The total length of the Skaguay trail is forty-two miles, all of which may be traversed by pack animals.

In the summer of 1897 the wild rush for the gold-fields began, and the Skaguay trail was the one mostly used. Soon a town sprang up at the coast terminus, consisting at first of tents and shacks. In an exceedingly short

WINTER ON THE SKAGUAY TRAIL.

time fairly substantial buildings were erected, and the young city became known far and wide. A great rush for the location of town lots by squatters took place, and speculation in real estate soon began. This brought into greater prominence the trail, which became the most conspicuous one into the interior during the past season.

The town of Skaguay, while containing a population estimated at four thousand, has all the marks of a frontier town. Every branch of industry is carried on and extensive wharves make the landing from ocean vessels safe and convenient. To what extent other permanent improvements may be made will be determined during the present year, when the railroad now pushing on to the interior demonstrates whether it is to be a popular substitute for the old manner of individual packing, and with animals and tramways, which promised so much to the ambitious prospectors who experienced distress and agony in the early days on their way to the Klondike.

With the advent of the railroad and a line of steamers connecting with those of the Yukon River via Rink Rapids and Five Fingers, and thence to the headwaters of the Yukon, this town will outstrip its rival, Dyea, and may become, as many believe, the metropolis of Southeast Alaska.

The Stikeen River Route

It is but natural that the British Government should feel much interested in the matter of reaching the goldfields of the interior, for not only the Klondike, but a very large portion of the region drained by the Yukon River, lies within its territory.

From the moment the first discoveries were reported on the Klondike, great diligence has been exercised by the Dominion Government in ascertaining if there was not some point on the coast other than Lynn Canal from which a good route could be found to the new mining camp; but the past season has demonstrated that the only feasible one is that having Dyea or Skaguay as the initial point.

At least one survey was made by this Government from Telegraph Creek to Teslin Lake, a distance of about one hundred and thirty miles, which is known as "Middle" route. The survey shows that for the first five miles the grade averages two hundred feet to the mile, and that the highest elevation reached on the route is seven hundred feet. For the first seventy miles the character of the country is high, but from here to the lake, a distance of about sixty miles, it is much lower, and during early spring considerable difficulty is encountered on account of the low character of the country.

There are two other routes which have been prospected, one leaving Telegraph Creek and bearing north for about twenty-five miles, and then heading direct for Teslin Lake. This route is high and dry for nearly the entire distance, and although more or less rugged does not reach an altitude of more than seventeen hundred feet, and its length does not exceed one hundred and fifty miles.

The third, or southern, route leaves the river at Glenora, twelve miles south of Telegraph Creek, and is about one hundred and twenty miles long, following a course to Teslin Lake about twenty miles south of Middle route.

It was proposed to establish pack-trains over Middle

route, and had the Canadian Government appropriated money for building corduroy roads where needed over the low places, as was expected, overland transportation could have been had for passengers and freight the entire distance to Teslin Lake. This would doubtless be a more expensive route to travel on account of the long distance of packing, but the difficulties encountered in passing over the Summit on both the Dyea and Skaguay routes would not be met with here.

The country throughout almost the entire distance from the Stikeen River to Teslin Lake has every appearance of being a rich agricultural region suitable for the cultivation of barley, oats, potatoes, and other vegetables. These have been successfully raised in the vicinity of Telegraph Creek for a number of years. Bunch grass abounds over a great portion of this entire section.

The Stikeen River is a treacherous stream. Its waters are swift and the channel always uncertain. It resembles in some respects the Missouri River, sand-bars being more or less frequent, the largest lying sixty-five miles from Wrangel. Navigating this river in canoes is a long, tedious, and dangerous undertaking, and should not be attempted without Indian guides who are familiar with the stream. A river boat drawing more than twenty-four inches, after being loaded would have difficulty during most of the season in ascending the river, but would doubtless be able to get off the bars without serious damage, as no rocks or boulders are found on them. The greatest difficulty a boat would encounter on the river would be between Glenora and Telegraph Creek, where rapids cover the entire distance of twelve miles.

At Teslin Lake an abundance of black pine and spruce abounds and a saw-mill was erected the past season. This route to Dawson City extends through Teslin Lake and the interior country via the Hootalinqua River, and thence down the Yukon.

The telegraph line upon which millions of dollars were spent in the early '60's, having in contemplation a transcontinental line to Bering Strait and thence through Siberia and the Old World, and which was suddenly abandoned because the Atlantic cable was successfully laid, is now, it is said, after the lapse of over a quarter of a century, to be rejuvenated. A great many miles of poles were erected and wires strung, and all through the north-west possessions these poles and wires are still found.

The Canadian Pacific Telegraph Company is reported to have decided to extend its line the coming season from Cariboo to Telegraph Creek, and thence to Teslin Lake and Dawson City. This is almost the identical route followed by the original surveys, and with the consummation of this project the outside world will know in a few hours after, the happenings of far-off Alaska, which, under present conditions, take weeks and even months to reach us.

Taku Route

Taku River, emptying into an inlet of the same name a dozen miles or so east of Juneau, has figured prominently during the last few years as a probable British route into the interior of Alaska. Two or three parties have at different times attempted to reach the interior

by Taku River during the winter, but in each instance became discouraged and returned. It is this river that Schwatka ascended on his last trip into the interior in the spring of 1891. He found an easy grade going from the river to the eastern extremity of Teslin Lake, ninety miles overland, but thirty miles of that distance lies through a low, swampy country which, before it becomes practicable as a route for freighting, will have to be corduroyed.

Dalton or Chilkat Pass Route

A route that has attracted much attention during the past year is what is known as Dalton's trail, so named in honour of Jack Dalton, one of the best known explorers in Alaska. It leaves Lynn Canal at Pyramid Harbour, following up Chilkat River to the junction of the Kluhenee River, which it follows to its source, then keeping to the west of Lake Arkel, and striking the Yukon River at Fort Selkirk, five miles below the mouth of the Pelly River. This route requires a portage of about three hundred and fifty miles and has an easy grade most of the way, though it has an altitude of about four thousand feet.

One feature that is largely in its favour is that it is comparatively safe to travel over at any season of the year, for the difficult ascent of the Summit encountered on both the Skaguay and Dyea trails is avoided here, thus robbing it of the terrors which beset the traveller on both the other routes in the cold months of winter.

Mackenzie River Route

It is not likely that what is known as the Mackenzie

River route will ever become a much-travelled thoroughfare into the interior of Alaska, yet it is true that a route has been found by way of the Arctic Ocean to the mouth of this river, with a short portage to the headwaters of the Porcupine, or by the eastern branch of that river to its head, and a short portage to the headwaters of Coal Creek, flowing into the Yukon near Fort Cudahy. This route has been travelled several times during the last few years for the purpose of carrying mail which left San Francisco late in the summer via St. Michaels to Fort Cudahy, thence to the American whaling fleet in winter quarters in the Arctic near the mouth of the Mackenzie River.

The Back-Door Route

This route attracted considerable attention among Canadians during the past year, and it was thought it would be adopted by many going into the interior from the Canadian provinces. The strongest argument in its favor is, that it is practically an all-water route, and although it is not claimed that the gold-fields can be reached in less time by this route, it is urged that it can be made in summer with more comfort and less expense.

With the exception of the overland journey of forty miles between Edmonton and Athabasca Landing, the portages are short. Until the latter end of the journey, or the Porcupine River is reached, settlements and forts are found at convenient distances, and the route lies for the most part through a fish and game country, and supplies can be had at moderate cost.

After leaving the railroad the route lies over the same track used by the Hudson Bay Company for nearly a

century, and the different points present many evidences of civilisation.

If this route had proved practicable in its present state, this year would doubtless have seen it much improved, for the competition of the various transportation companies has awakened strong rivalry as to which is the most feasible route and which can offer the best inducements for people to travel over to reach the gold-fields of the north.

The main line of the Canadian Pacific Railroad branches to the north at Calgary, and in a few hours Edmonton, the end of the railroad, is reached. Here the first overland part of the journey is made to Athabasca Landing, a distance of forty miles. From this point, Athabasca River is traversed for one hundred and sixty-five miles to Grand Rapids, where, to avoid three-fourths of a mile of rocky rapids, a portage must be made, letting the boat through by means of a rope.

After this point is reached, the boat may proceed ninety miles to Fort McMurray, but extreme caution must be exercised in navigating, as the river is one continuous extent of rapids and swirling pools.

At Fort McMurray, clear water is again found to Athabasca Lake, a distance of one hundred and eighty-five miles, where the lake must be crossed a distance of fifteen miles to Fort Chippewyan. From here follow the lake ten miles to the mouth of Slave River, and follow this stream nearly one hundred miles, or to the head of a portage of about eighteen miles, commencing this side of Fort Smith.

If desired, the river may be followed instead of making

the portage, but if this is done a half-dozen short portages would have to be made; the last part of the river is exceedingly precarious on account of danger to the boat from the rapid water and rocks encountered.

From where the river is again taken it is followed for two hundred miles in good current and clear water into Great Slave Lake. Ten miles to the west of this point is Fort Resolution. Then the shores of Great Slave Lake are followed to the point where the Hay River empties into it, a distance of ninety miles. From Hay River to the head of the Mackenzie River, a distance of twenty miles, the shores are marked by huge boulders and rocks, making navigation exceedingly dangerous, and should never be attempted when the wind is blowing from any direction but east.

Mackenzie River should be entered by what is known as the South Channel, following the southern shore until numerous small islands are passed. From the head of Mackenzie River to Fort Providence is a distance of eighty miles, and from here to Fort Simpson is one hundred and sixty miles. Continuing down the river, it is one hundred and thirty miles to Fort Wrigley, and from Fort Wrigley to Fort Norman, the next post, is one hundred and eighty-four miles, and one hundred and eighty miles farther on is Fort Good Hope.

Two hundred and fifty miles down the river the Red River joins its waters with the Mackenzie. Thirty miles from Red River a small branch of Peel River empties into the Mackenzie. This river is ascended twenty miles where it joins the main branch of the Peel near Fort McPherson. The Peel River is crossed at this point, and

the Rat River is ascended for thirty miles, where a portage of one mile is made, to the headwaters of the Porcupine River, which is followed to its junction with the Yukon River, from which point the mining camps either up or down the Yukon are reached.

Another way to reach the Yukon River from the mouth of the Mackenzie is by following the eastern branch of the Porcupine, whose headwaters rise near the source of Coal Creek, which flows into the Yukon near Fort Cudahy. The portage between these two streams is about eight miles, but the country is too rough to ever become a popular route.

A third route from the mouth of the Mackenzie River to the mines of the interior is by ascending the Peel River to its source, and then across the divide to the headwaters of Stewart River. This is thought to be a good route, but it is doubtful if any reliable information has been received concerning it.

CHAPTER XIII

THE YUKON GOLD-FIELDS

GOLD was first discovered in paying quantities in the Yukon basin in 1881. In that year a party of four miners crossed the range and descended the Lewes River as far as the Big Salmon River, which they ascended a distance of two hundred miles. Gold was found on all the bars of the Big Salmon, many of which paid well. In the next three or four years some mining was done on the Pelly and Hootalinqua Rivers, and in 1886, gold in considerable quantities was found at Cassiar bar on the Lewes River. The richest claims located in the Yukon country up to that date yielded as high as one hundred dollars per day to each man.

As early as 1860 men in the employ of the Hudson Bay Company are reported to have found gold in the Yukon basin. Professor Davidson credits George Holt as being the first white man to cross the Coast Range. A confusion exists as to the time of Holt's journey, the dates being variously given as 1872, 1874, and 1878.

Holt went down the chain of lakes to Lake Marsh and then followed an Indian trail to the Hootalinqua River, where, he reported upon his return, he had found coarse gold. No coarse gold, however, has since been

AMERICAN AND MISSION CREEK GOLD-FIELDS.

found on that river, but the bars yield large quantities of flour gold. In 1880, Edward Bean led a party of twenty-five men from Sitka to the Hootalinqua River, but met with indifferent success. Other parties also crossed the pass during the same year.

The Stewart River country is the most promising of the upper Yukon. The river is navigable for many miles, and has tributaries that are large enough to deserve the name of rivers. It drains a country that is an empire in itself. The Stewart River is estimated at about eight hundred miles in length, and gold is found on all its bars. One of them has been known to produce $4000 in a single season. For more than ten years prospecting in a desultory manner has been carried on here, but as yet no great strike has been reported.

The Klondike miners, knowing that it is just over the first great divide from their own stream, have the greatest faith in the future of Stewart River.

The season of 1898 witnessed a greater emigration to that section than ever before. Many miners, going into the interior, stopped there rather than take their chances in the Klondike, and many reports of rich discoveries have been made.

There seems always to have been a combination of circumstances arising against thorough prospecting in the Stewart River country since gold was first discovered on that stream. In the early days men left diggings there that were paying well for more promising claims on Forty Mile. The next excitement which turned the attention of miners to Stewart River was nipped in the bud when Birch Creek began to hold up alluring prospects, and

again the stampede was diverted. The next move towards Stewart River was hardly begun, when the wonders of the Klondike carried men off their feet and landed them in the opposite direction; and prospecting the past season had hardly begun in earnest, when the excitement attending rich discoveries in Lake Atlin district again diverted attention from Stewart River, and lost to this section many miners who had found good prospects.

Most of the old miners of the interior have faith in the Stewart River country, and it is a common sentiment among this class that this is the coming camp. Many believe that not only will rich placer diggings be found here, but also extensive deposits of ore are predicted, and not a few can be found who believe that the mother lode is yet to be unearthed somewhere along the valley of the Stewart.

On the banks of the river will be found a growth of timber suitable for use in mining, building cabins, and for fuel. Here, too, are tracts of open ground which may be adapted to agriculture. Moose, cariboo, and bear abound in the adjacent woods and fish stock the streams.

The important discoveries made in the great Yukon basin previous to that of the Klondike were, Forty Mile, Sixty Mile, Miller, Glacier, and Birch Creeks, and Koyukuk River. Forty Mile and Sixty Mile Creeks flow into the Yukon from the west, having their source in the Ratzel Mountains, a low intermediate range running nearly parallel to the Yukon and forming the divide between the Yukon and Tanana Rivers. The streams putting into the Tanana on the west side of this range have

not yet been explored; but lower down, along the banks of the Tanana, some prospecting has been done and gold in paying quantities has been found.

Miller Creek, for several years one of the richest discovered in the interior, is a tributary of Sixty Mile Creek, entering it about seventy miles from its mouth. Miller Creek is about seven miles long, and upwards of fifty mining claims have been located there, but few of them have, as yet, been developed to any considerable extent. Miners prospected this creek at various times during preceding years, each time abandoning it because the vast accumulations of drift found everywhere made it unprofitable to work. But in 1892, prospecting again began, and many rich strikes were made, one claim alone yielding $37,000 of the yellow metal, and one clean-up being reported of about eleven hundred ounces.

Glacier Creek is another branch of Sixty Mile Creek, running nearly parallel with Miller Creek, and about three miles distant. Claims prospected on this creek promise to equal in richness those of Miller Creek, for rich finds have been reported on abandoned claims. The whole creek has been located, the first claims being staked out in the summer of 1894. The gulch is nine miles in length, and varies in width from one and one-half miles at its mouth to six feet at the head. The prospects on Glacier Creek are excellent, the dirt yielding from a few cents to four dollars to the pan.

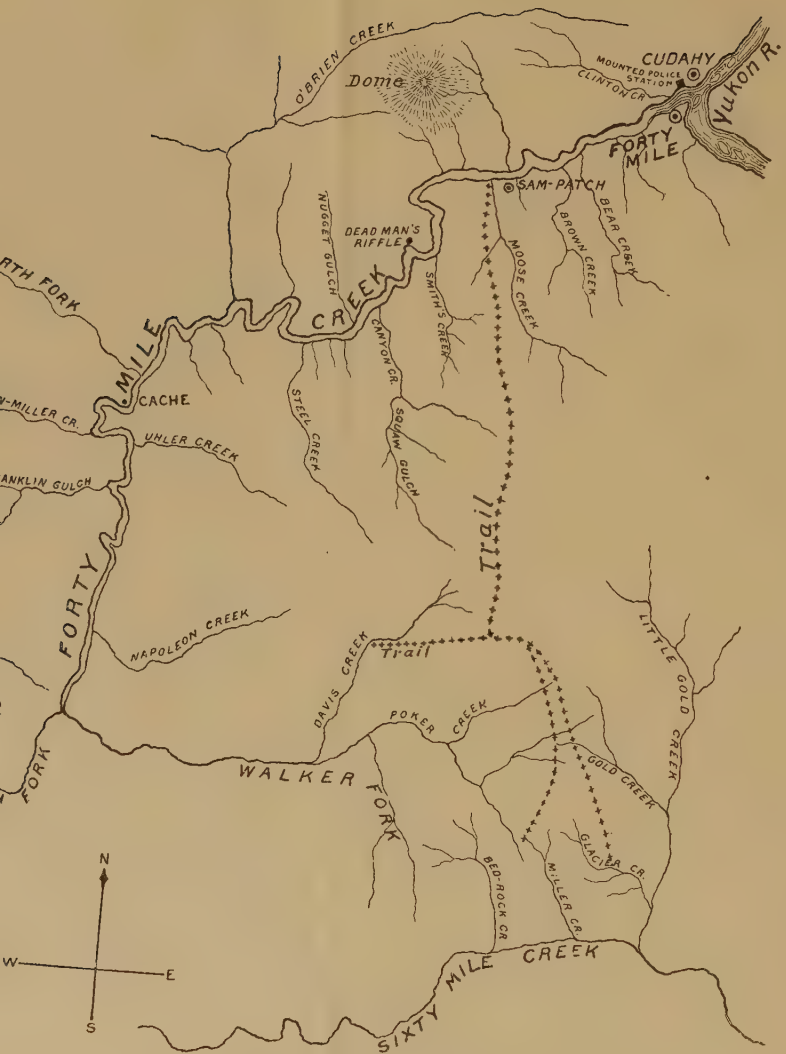
Another creek, about three miles distant from Miller Creek, is named Bed-Rock, but as yet has not proved very promising as a mining location.

Indian River flows into the Yukon about thirty miles

below Sixty Mile Creek. Here rich gold discoveries were reported in 1894, and since then it has attracted increased attention. The stream is rapid and shallow, but prospectors have ascended it a distance of over one hundred miles.

Shortly after the rich discoveries on the Klondike, prospecting was commenced on Indian River, and Sulphur and Dominion Creeks, both tributaries, proved to be very rich. This led to thorough prospecting on the main creek and all its branches, and the indications are that they will prove as rich as some of the tributaries of the Klondike. A trail over the hills from the Klondike connects with Indian River a few miles above its mouth.

Forty Mile Creek, previous to the Klondike discovery, was more familiarly known to the miners of Alaska and to the people at large than any other locality in the Territory. Its bars have yielded large returns, but these diggings are practically abandoned for the gulches and ravines which furnish coarse gold. It is about two hundred miles long, and has numerous tributaries. Entering the Yukon from the west, it drains the country lying between the Yukon and Tanana Rivers. It was not discovered until 1887 and was the scene of the first real excitement in the valley of the Yukon. Its mouth is just over the line in Canadian territory in about sixty-four degrees north latitude, and about one hundred and forty-one degrees west longitude. The first news of gold being found there was brought to the coast by a man named Tom Williams, who was the bearer of letters to Jack McQuestion, of the Alaska Commercial Company's trading post at Forty Mile, who was then in San Fran-



FORTY MILE CREEK GOLD-FIELDS.

cisco. The letters advised him of the discovery, and instructed him to ship in a larger supply of provisions in anticipation of a rush to the new Eldorado the following spring. Williams was accompanied by an Indian boy with a dog team and sled. They had an extremely rough trip up the river. It was in the dead of winter and the cold was intense. Before reaching Lake Bennett the dogs all died from cold and exhaustion. At the summit of Chilkoot Pass a fearful storm arose and the struggling travellers were compelled to hastily build a snow hut in which they remained ten days, living on a little dry flour, the only thing left them in the way of provisions. Both men were badly frost-bitten, and upon attempting to resume the journey it was found that Williams was unable to travel. Nothing daunted, the young Indian took his companion on his back and, struggling through drifts and blinding snow, succeeded in reaching Dyea, sixteen miles distant. A few days later Williams died, but not before he told at Dyea of the strike at Forty Mile and of the mail pouch containing letters, which was left at the snow hut at the Summit, where it was afterwards recovered.

In the following spring active mining operations began, and it is estimated that since that time upwards of a million dollars in gold have been taken out of Forty Mile Creek and the small feeders running into it. On Forty Mile nearly all of the available rich ground has been worked out, but there are many high bars along the stream known to be rich which have not as yet been touched because of the difficulty of getting water through them, and the frozen condition of the ground.

Birch Creek, the scene of the next strike and excite-

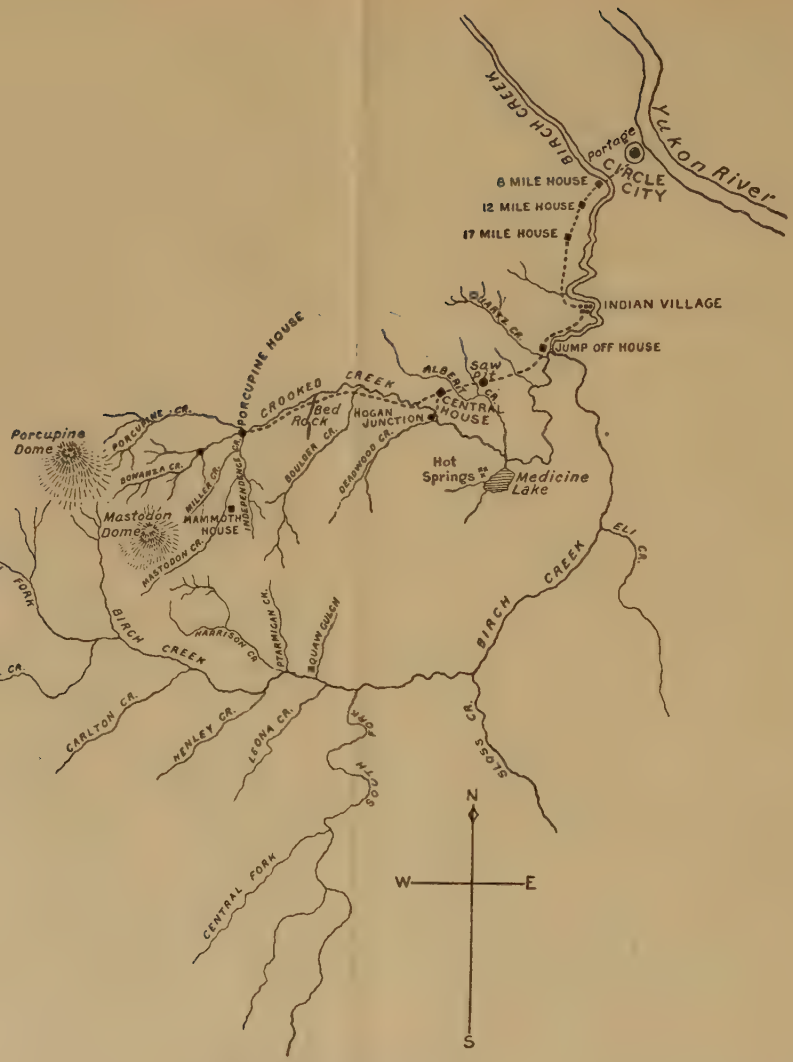
ment in the Yukon country, runs parallel with the Yukon on the west for over three hundred miles, and, as elsewhere related, there is a portage of only six miles across the country between this and the Yukon, two hundred miles above its confluence with that stream, so a trip by water from one terminal of the portage to the other involves a journey of four hundred miles. Here on the Yukon side of the gateway to the Birch Creek mines is Circle City, at one time a close rival of Forty Mile as the metropolis of the Yukon mines.

The news of gold discoveries on the Klondike in the autumn of 1896 drew largely upon the population of Circle City and its adjoining creeks. Miners abandoned claims that were making them rich. Very few withstood the panic. In the middle of a terrible winter hundreds of men drew their sledges over the ice of the Yukon to try the new diggings more than three hundred miles distant, yet no man perished in making the journey.

Here are extensive auriferous deposits, and the creeks and bars adjacent to Birch Creek have been more or less thoroughly prospected, with the result that this section still promises exceedingly well.

One of the principal tributaries of Birch Creek is Crooked Creek, and from Circle City a trail leads over the hills to the mines on Independence and Mastodon Creeks.

On Molymute, a branch of Birch Creek, gold was first discovered in 1893, and since that time it has been found on tributary streams. Birch Creek has been explored for upwards of three hundred and fifty miles, and the entire distance is filled with rapids and canyons. The South



BIRCH CREEK GOLD-FIELDS.

Fork drains the country lying at the head of Seventy Mile Creek. Many claims were staked off in 1894 on Mastodon, Independence, and other streams flowing into Birch Creek. These claims are more easily worked than elsewhere on the Yukon and tributaries, from the fact that bedrock appears much nearer the surface and water is more easily obtained. Some sixty miles below Birch Creek portage, Preacher Creek joins the main stream. This creek is about one hundred and twenty miles long. It has been prospected but little and not much is known of it except that, as everywhere else in the Yukon basin, gold is found. The headwaters of this creek penetrate a country whose geological formation is very peculiar, showing drift and disturbances which might have been caused by the receding of waters ages ago.

The most recent discovery of gold yet reported, is that of Munook Creek flowing into the Yukon eleven hundred miles above St. Michaels and seven hundred miles down the river from Dawson City. Munook Creek enters the Yukon from the south, and is far within the limits of American territory. It is reached by steamer via St. Michaels, or by the overland route, and it is estimated that there are fifteen hundred people in the camps, the main centre of which is Rampart City. Several hundred people took passage late in the summer of 1897 on steamers headed for Dawson City, but the water being low it proved impossible to pass the bars in the vicinity of Fort Yukon. The Munook discovery having been made in the meantime, many of the passengers took up their quarters here and are engaged in prospecting and winter mining.

The reports sent out from Munook are very flattering, but the spring clean-up alone can tell of the richness of the diggings. The country promises to rival the Klondike, but whether or not these expectations will be realised cannot be determined at this time.

A remarkable feature that encourages the search for Munook gold is the high quality of the metal found there. The nuggets are heavier, darker in colour, and freer from foreign substance than the Klondike gold. It assays the remarkably high price of $18.97 per ounce, which is about $2.50 higher than Klondike gold. One lot of samples brought down by James Dietrich, a mining expert, contained nuggets to the amount of $1200, gathered from each of the different creeks flowing into the Munook. It could be readily observed that each was slightly different from the other in shade of colouring. This was a reminder of the old California days when gold-buyers always knew by the colour of the gold from which creek it came. Dark-coloured gold is said by old miners to indicate permanency of diggings.

The Munook, like the Klondike, will prove to be largely winter diggings from the fact that the prevalence of high water in summer prevents active mining. The surface of the ground in the Munook region is thickly covered with the ever present Alaskan moss.

The tributaries of Munook Creek where claims are staked are named Little Miller, Hunter, Little Munook, Gold, Hoosier, Hamilton, Ruby, Slate, Chapman, and Granite.

Six years ago some rich gold discoveries were made on the Koyukuk River which were prospected vigorously

MUNOOK CREEK GOLD-FIELDS.

Santa Clara County
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the following year with good results. A number of creeks, namely, North Fork, Wild Creek, South Fork, and Fish Creek have been prospected with fairly good success.

During the summer of 1898 many miners who had started up the Yukon for the Klondike left this stream at the mouth of the Koyukuk and distributed themselves along the river and its branches for over three hundred miles. Over twenty river boats ascended the Koyukuk, and seven dredging machines operated along its banks and on the bars, it is said, with splendid results. A town named Peavy was located just above the Arctic circle, and several miners are wintering in this vicinity and prospecting the country vigorously. A land office was established at Peavy in March last.

While most flattering reports are in circulation concerning the Koyukuk River country, the true facts from this region will not be known until navigation opens the coming summer.

Below the Koyukuk River, the only streams of any importance that empty into the Yukon are the Inoko, coming in from the south, and the Anvik from the north about thirty miles farther down. Along the Anvik discoveries were announced early last spring, and considerable excitement was occasioned by the reports from that region, but the attitude of the military stationed at St. Michaels, who discouraged the staking off of the claims on the ground that it was within the military reservation, prevented the investigation which would otherwise have been made.

The difference in climate between the coast country

and that of the interior is very marked. All along the Kuskoquim River, during the summer months, there is an excessive fall of rain, while in the interior it is very dry. The frozen condition of the ground, which extends to a depth of many feet below the surface, makes placer mining everywhere in the interior of Alaska very difficult. A layer of moss, often to the depth of eighteen inches, covers the ground, and the hot rays of the sun during the long days of summer are not able to penetrate sufficiently to thaw the ground underneath. It is only where the moss is stripped and the bare surface is reached by the sun's rays that it thaws to any extent. This method is often resorted to by miners in order to get the ground in readiness for their sluicing work. The ice seldom passes out of the Yukon before the first or middle of June. As early as the middle of September the sun has travelled so far south that the air is chilly, and in a few days ice forms, so that further working of the ground in this manner must be abandoned until the following year.

It must be remembered, however, that although one cannot depend upon much more than two months for summer work, yet, from about the middle of June until the first of August, it is daylight, the sun shining almost continually. Thus, what is lost in the length of the season is, in a measure, made up in the length of the day. If a man can stand the severe physical strain, he can put in many more hours of work here than in placer mining camps in other parts of the country; and if his claim proves sufficiently rich to enable him to pay for hired help, darkness never interferes with work, for by running two or three shifts each day, he can work his

mine, and have daylight to do it in, nearly the entire season.

The creeks described in this chapter, as a general thing may be worked in winter as well as in summer. It was the original custom to work them in the summer only, and for the miners to either return to civilisation in the fall or while away the long months of winter in visiting neighbours, making trips to native settlements, or in hunting and trapping. But the happy thought came to some one to make fires upon the ground, thus thawing and removing the earth until bedrock was reached; then to tunnel and drift, lifting the dirt to the surface, where it was washed out in the spring. This gave a new impetus to Yukon placer mining, and now some creeks are worked only in the winter, which, on account of high waters in summer could not be operated. Such was the origin of the now common designation of "winter diggings" or "summer diggings."

The accompanying cut represents the exact size of a nugget taken out by the winter process of mining. It was found in Franklyn Gulch, March 26, 1894, by Conrad Dahl. It weighed exactly thirty ounces before, and twenty-nine and forty-five one-hundredths ounces after, being melted at the Mint in San Francisco. Dahl had prospected in the vicinity the summer before, and in the winter thawed the ground by burning wood on top, and continued the process until he reached bedrock, hauled the dirt out, and washed it afterwards. The nugget brought $491.45.

The next few years will probably determine whether or not there are any extensive deposits of gold quartz in

the interior of Alaska. Until the past season most of those who have gone there have been men of very limited means, and the difficulty of getting supplies in from the coast has been so great that they were taxed to the utmost to land at the scene of their labours with food sufficient to last them for a single season. On this account little prospecting for quartz has been done.

A YUKON NUGGET.
SIZE AND SHAPE.

Within the past year, however, companies have been formed and an effort made to test the quartz-bearing capacity of this country. It is fair to suppose when gold is found upon every stream or creek, that somewhere in the mountains there must be rich quartz ledges. There are instances, and not a few, where men, in working or prospecting placer mines, have come across boulders or rocks containing gold, but, for reasons stated above, they were not able to expend the labour necessary to follow up the "float."

Those who have not had personal experience in placer mining cannot realise the fascination which one feels when engaged in this occupation. It is a healthful, hopeful, rugged, and independent life. The vocation of the placer miner often carries him alone into the mountain fastnesses, with pick, shovel, and pan, far away from every scene of civilisation. He feels a pride in picking out the yellow fragments, which he has separated from the dirt by dextrous dipping, gradually letting the gravel run out with the water, while the yellow deposit settles around the edge and gravitates to the bottom of the pan. Before venturing upon the life, he naturally dreads the separation from home and friends. He realises that he is to be deprived of the pleasures of society; perhaps he is leaving a loving wife and children behind, but when once in the field, these recollections crowd him on to new life and spur him to renewed efforts. And when, perhaps, he has secured his treasure, life seems to open up through a vista of years a new and happy existence. In no place on earth can you find such loyalty to friends, such honour among men, as in the camp of the miner. They are the architects of their own laws and executioners as well. Their lives develop all the characteristics that go to make up a strong nature, and the dangers with which they come in contact school them to bear their burdens calmly and to meet peril or death, if need be, with fortitude.

CHAPTER XIV

THE KLONDIKE

FOR many years, the old miners who were located on various tributaries of the Yukon declared that no pay-dirt existed above Forty Mile Creek. This was the prevalent and accepted theory. With this idea in mind, which may be almost pronounced a superstition, the streams entering the Yukon from the eastward were shunned by prospectors. What is now the most famous gold-bearing stream in the world was known only as a great creek for salmon. Some gold is reported to have been taken out from the Klondike as early as 1887, but not sufficient in quantity to attract special attention, as the presence of gold on streams in that region generally goes without saying.

There seems to be a tendency to shift the glory of the first find in the Klondike. One story has it that a certain "tenderfoot," who did not know that old miners never dig through clay in searching for gold, dug on through, and by his ignorance made the great Klondike discovery.

The real discoverer, however, according to a number of authorities, among whom is William Ogilvie, chief of the Canadian boundary surveyors, was J. W. Carmach.

Nine years previous to the discovery, Carmach married a squaw. He finally learned from his wife's people a long-guarded secret, that large deposits of gold were to be found in that region. With two Indians he went on a prospecting tour. In eight days' time, with the most crude methods, he had the phenomenal success of securing $1420 in coarse gold. He said he could have accomplished this in one-fourth of the time with proper facilities. This was on what is now known as Bonanza Creek.

When the information of Carmach's discovery reached Circle City and Forty Mile, many were incredulous, but a great stampede ensued. In a very short time every available claim on the creek was staked off. Prospecting on other gulches began, and soon F. W. Cobb and Frank Phiscator, both "tenderfeet," succeeded in making good strikes on a tributary of Bonanza Creek, which they named Eldorado Creek.

During the autumn months of 1896 the prospecting and locating of claims continued. The season was well on, but the eager miners made quick arrangements for the winter's work. By the following spring, good finds had been made on Hunker, Bear, Adams, and Gold Bottom Creeks, and on Skookum Gulch, all tributaries and sub-tributaries of the Klondike. It is the present opinion of miners, based on results thus far obtained, that Eldorado Creek is the richest of the lot, and that Hunker is a close second. Many miners are anxiously awaiting the coming clean-up on "Too Much Gold" Creek. This is a significant name given by the Indians to a creek far up the Klondike. The miners, in speaking of it, always add drily that gold is so plentiful there that gravel should be

mixed with it to make good sluicing. Little gold has yet been found in the valley of the Klondike River itself, it being wholly confined thus far to the tributary creeks.

The spring clean-up of 1897, following the first winter's digging and burning, was sufficient to startle the whole world as a gold discovery had never before done. Many of the owners of claims would not have had the means to pay for labour had they not panned out gold for the purpose as the work proceeded. Partly in this manner it became known that the Klondike discovery was a phenomenal one, for single pans of earth yielded sums in coarse gold ranging as high as $800, and many gave from $100 to $350 to the pan. The miners easily paid the wages of their men and other expenses in this manner, but the sluice-boxes in the spring made many of them wealthy men.

The first steamer from St. Michaels which reached Seattle in July, 1897, brought upwards of a ton of gold, and its various owners aboard possessed sums ranging from $20,000 to $115,000 each. Very few of the miners brought out the full amount of their riches, as those retaining their claims had operated them but one short season. Some left portions of their gold for new investments in purchasable claims, and others deposited large sums with the commercial companies because it was inconvenient to handle en route.

These figures, large as they seem, were insignificant in comparison with the output of last season. The first winter the miners were not supplied with wood for thawing the ground, lumber for building sluice-boxes, or logs for cabins. They were largely provided with

KLONDIKE GOLD-FIELDS.

these necessities during last summer, however, and the output of 1898, based on conservative figures, reached the sum of $6,000,000. It is the general opinion by those in a position to know, that the wealth of the diggings has not been overestimated, and that if no new discoveries are made, those already known to exist cannot be exhausted in a decade to come.

The sudden and vast riches thus bestowed upon these hardy, whole-souled miners has developed a new lot of bonanza kings as great and as unique as ever California or Nevada produced. The history of the Mackays, Fairs, and Comstocks may be, if not outdone, at least parallelled by characters in the persons of McDonald, Ladue, or Galvin. Alexander McDonald took out $94,000 from forty square feet of ground, two feet in depth. He is the largest owner of claims in the Klondike, and has recently organized a company in London, with a capital of $6,000,000, to work his properties. Pat Galvin, an old-time Alaskan, recently refused an offer of $1,000,000 in cash for his holdings, and is said to be surely on the road to greater wealth. He was formerly a newspaper-man of Helena, Montana.

The detachment of North-west Mounted Police, under command of Inspector Charles Constantine, were among the first on the ground when the Bonanza and Eldorado Creek discoveries were made. The inspector allowed his men to locate claims and hold them by representatives. Numbers of the police force suddenly became rich men while still working for the Government at a dollar a day. One of these individuals, who had only expended the $15 for recording, and had done nothing more than to

drive four stakes in the ground, soon sold out for $40,000. Others secured much larger sums. Some remained to work their claims when their term of enlistment expired, but none re-enlisted in the service of the Government. The outcome was that entirely new men had to be sent in to recruit the police force.

The first season at the mines was an eventful one for the persons who chanced to be there. Their eyes were feasted on scenes rough and crude, but not to be forgotten in a century. The most remarkable of these scenes, was to enter a lowly cabin, and see clustered about under a rough table, or on a none-too-cleanly shelf, old coal-oil cans, syrup cans, or buckets filled to the brim with gold nuggets fresh from the soil. In one cabin would be as many as three gold-pans heaped full of nuggets; another would have as much more in a heap on a piece of canvas cloth spread out. And yet no man with loaded rifle stood on guard, and no thief was there to carry the treasure away.

Mrs. Lippy was at the mines with her husband, and she gathered about $6000 in nuggets from the sides of the dump-pile on their claim. Mrs. Clarence Berry, with gold-pan, washed out gold to a like amount, just to pass away the time.

The Klondike River has its source back in the Rocky Mountains at some unknown distance. Its headwaters have never been explored, much less its upper tributaries. It is not known that gold does not exist in all of them, for the country has been impenetrable on account of the great difficulties in transporting supplies, and in travelling in a country totally unpopulated and unmarked by

trails of any kind. While other regions across on the American side are being ransacked for the precious yellow metal, it is yet within the most reasonable probabilities of the future that the upper Klondike will become a producer of gold in quantities equal to those localities already discovered.

The Klondike River empties into the Yukon sixty miles below Sixty Mile Post and forty miles above the town of Forty Mile. Dawson City, at the junction, was founded, shortly after Carmach's discovery, by Joseph Ladue, an old-timer who for several years had operated a saw-mill and store at Sixty Mile Post. Ladue was chosen as the first mayor of Dawson City. He still owns much of the town-site and large mining interests, all of which he estimates as worth $5,000,000. The estimated population of Dawson and the neighbouring camps is about 17,000.

The character of the country in the Klondike region is mountainous. It is a difficult country to traverse, although not heavily timbered. The growth of timber in the immediate vicinity of Dawson City is small and sparse, but it is larger and more plentiful at the mines farther up the stream. Logs for building at Dawson are secured farther up the Yukon and floated down in rafts. The great tax upon the timber is for wood to burn in thawing the ground for winter mining. For this purpose, of course, brush and scrubby undergrowth are largely used.

Some of the best pay-dirt on the Klondike is in low, swampy ground, which in the summer time cannot be worked on account of the water. Dig a prospect hole

one foot in the ground, and it will immediately fill with water. So it is, as far down as the soil is penetrated. The water pours in and stops operations until ice forms in the fall. For this reason the Klondike is spoken of by miners as "winter diggings."

Having built his sluice-boxes and collected as much wood as possible during the summer months, the miner begins in the fall by clearing a few square feet of the surface of its coating of frozen moss, such as is common over the whole of the interior of Alaska and North-west Territory. The next step is to kindle a fire upon the surface thus divested of its covering, and to heap on wood for several hours. Then, the fire being removed, the men with shovels and picks quickly throw aside the thawed earth and gravel as far down as the "burning" process has reached, which is not more than a foot or two. The earth removed is piled in a heap safe from spring freshets, and this is called the "dump." This process is repeated until bedrock is reached, which, in the Klondike, averages from fifteen to forty feet in depth. From the bottom of the shaft thus sunk, drifts extend in different directions, and the dirt is hoisted to the surface and carefully piled on the dump. The clean-up does not occur until spring. A golden harvest-time it is, and the mines that have been sold are often paid for at this time, and debts for labour and otherwise are settled for in gold fresh from the ground.

Prospecting in the Klondike is not an easy task. First, the prospector must not go too far from his base of supplies, for upon his back, with trails unbroken, he can carry only enough food for a few days at most. In the sum-

mer-time with pick, shovel, and gold-pan he washes for colours in the surface dirt, but in the winter he endeavours to sink a shaft to bedrock. Locating a claim and having it recorded by the Gold Commissioner is not an idle matter, for the reason that not more than one claim by location in the district may be recorded and held by the same person. Should the claim prove worthless, the prospector has lost his right to secure mining property in that district by location, and to purchase is too often beyond his means. The sales of whole properties, however, are not so common as those of part interests in them, and the owner of a mining claim is invariably willing to sell one-fourth or one-half for much less in proportion. Sales have been made at fancy prices right on the ground long before the outside world had felt the fever of the Klondike excitement.

Placer claims, by the Canadian laws, are divided into two classes: namely, gulch claims and bench claims. The former are five hundred feet long and the full width of the gulch in which they are situated. Bench claims are only one hundred feet square. This remarkable difference in size, with the increase in favour of the richer class of ground, had an interesting origin. A few years ago miners operating on the Canadian side near Forty Mile Post petitioned the Government for larger claims than the then legal size of one hundred feet square. It was represented that the miners were compelled to convey their own supplies over a dangerous route of several hundred miles at great labour and expense. The Government responded right liberally by enacting a law, especially for the Canadian Yukon district, permitting the

acquiring of claims five hundred feet long and the full width of the gulch. Bench claims were then unknown, but later, when the land known as benches along the shores of the Yukon gold-bearing creeks were found also to be valuable, the only dimensions applicable to them by law was the old measurement of one hundred feet square.

Many persons, whose information is the best, have expressed the opinion that quartz is plentiful in the adjacent mountains. The Klondike is by far the richest known mining region in the whole of the Yukon valley, if not of the whole world. Time may prove that other tributaries of the same great river are richer, and this is possible, for many of the streams have not as yet been prospected.

The laws of the Dominion of Canada allow all persons of whatsoever nationality, over eighteen years of age, to lease mineral land in that territory, upon payment of a stated royalty, but do not authorise the purchase of mineral land.

On the other hand, the laws of the United States do not allow its own citizens or those of any other country to lease mineral land, but a citizen, or one who has declared his intention to become such, may purchase mineral land in Alaska.

CHAPTER XV

SUGGESTIONS TO PROSPECTORS

THOSE who intend to go to Alaska should take sufficient supplies for at least one year. One should plan to spend at least two years in the country. The first year is usually consumed in prospecting for a claim; the second in burning off the surface of moss, stripping to pay-streak, building ditches, constructing sluices, and in active mining. Enough money should be taken to pay the rail and steamer fare, for help in sledding or packing, and for the Canadian customs duty. To meet all the necessary expenses of the trip and take one year's outfit, at least $500 is necessary. Money may be deposited in Seattle banks and letters of credit obtained, payable by the different trading companies at their several posts, the cost of which is one per cent. Or certificates of deposit may be had and will be taken anywhere in the northern country. Sending home for money is a very uncertain thing for several reasons, one of which is the unreliable mail and express service. The present rates of fare charged from Seattle to Dyea and Skaguay are $40 first-class and $25 steerage. To Dawson City the fare is usually about $150.

Supplies may be secured at Seattle, Juneau, Skaguay,

or Dyea. The merchants of either of these towns are adepts in the art of packing supplies for the interior, and know just what is needed.

The quantity of supplies necessary for a journey over the passes must be determined by the size of one's purse, but in no case should the journey be attempted without a supply sufficient to last at least two months. Appended is a list of supplies intended for a one year's outfit. The selection of the goods is largely a matter of taste, but the list here given is a comprehensive one, intended to remind the purchaser of everything he is likely to need, some of which may be dispensed with. The hardware and camping outfit, with few additions, is sufficient for two persons.

None but the very best quality of goods should be taken. Winter clothing and blankets should be wool or fur.

While passing over the Summit in winter is considered a hazardous undertaking, yet, if attempted at the proper time, it can be made with as much safety as at any other season of the year. Do not attempt to cross the Summit unless there is every indication that there will be no wind. The great trouble in making journeys by sledge, with dogs or afoot, is that one undertakes to accomplish too much in a given space of time. He loads down his beasts of burden and travels too fast. The experienced traveller will camp whenever the conditions for travelling are unfavourable, and remain there contented, even though it be for days at a time. A good rule to follow is, if one cannot comfortably make ten miles a day, make five, and if five cannot be made, make one, and before a person is conscious of the passing of time, he is at the

end of his journey. Remember this maxim, "Go light and travel slow."

While there have been a few instances of men perishing from exposure in crossing the Summit in winter, yet a great many men have made the journey successfully, and during the past winter several men travelled almost the entire distance of the Yukon from the mouth to its source without a single mishap.

Women can make the trip to the Yukon with as much ease and safety as men. The miner who has the funds to take his wife with him is thought by his fellows to be a very fortunate individual. It is surprising the amount of endurance women exhibit in encountering the cold, hardships, and fatigue in making this journey. Unless the wife is compelled to remain at home by the care of children too small to take along, we believe that she will be far happier by the side of her husband. The refining influence of woman is needed in the Yukon, and we recommend it.

Let us offer another suggestion to those who are unfamiliar with the hardships of frontier life and with travelling in a cold country. Learn from the outset to depend upon your own resources and not upon partners. In other words, "Every man for himself." You will be better off in dollars and cents, and better off as far as your personal feelings are concerned, if you depend upon nobody but yourself.

The very first thought of one new to travelling in Alaska is to secure a partner. He thinks it necessary to mate with some good fellow, but if he will take our advice, he will go it alone unless he knows his man better

than a brother; and if the time ever comes during his long journey when he needs someone to help him over a bad place, he will find men similarly situated who will want his aid and will gladly aid him in return. When once in the mining regions, if he needs a partner, then is the time to select one who will be congenial as well as helpful. If he should go with a party of one or more, remember that nothing is gained by arguments, disputes, and quarrels. The man who "says nothing but saws wood" will get to the Yukon first and easiest, while his wordy companions are debating by the wayside or returning home with their excuses for failure.

The sled of a miner should be about seven feet four inches long, seven inches high, and sixteen inches wide, of strong but light timber, and the runners shod either with brass or steel, the former being preferable, because the sled will glide over the snow more smoothly in intensely cold weather, while steel is inclined to grind and lug very much. When the weather is cold, if water is taken into the mouth and held for a moment, then blown over the runner, a coating will form immediately, and if this process is repeated when it becomes a little worn off, one will be surprised to find how much smoother and easier the sled will draw. It is preferable to use the Eskimo mode of making sledges for Yukon travelling. They use no nails or bolts, binding the joints together with strong cords. There is much less danger of breaking if made in this way, should the sled be overturned, as the joints will yield more easily when thus tied.

In packing, men not accustomed to it will find that fifty pounds is quite enough to carry for the first few

days. After that the amount may be increased to one hundred pounds, but one mile is far enough to pack before returning to camp for another load. Then each night when you make camp you are within one mile at the farthest of your base of supplies. One cannot draw on a sled more than one hundred and fifty pounds day after day. A dog cannot draw on an average more than one hundred pounds over good roads, and the ordinary pack-horse cannot carry more than one hundred and fifty pounds.

Should it ever become necessary to cache the supplies for any considerable time, the cache should be built on a scaffold seven feet above ground. Compass bearings to some prominent landmark should then be taken and the distance paced off and noted down.

Do not load yourself down with firearms and ammunition. A shotgun for small game is all that is needed. If a rifle is taken, let it be a 32-calibre Winchester or Savage repeating.

Gold and silver are bought and sold by troy weight: 24 grains, 1 pennyweight; 20 pennyweights, 1 ounce; 12 ounces, 1 pound.

All natural gold, that is, gold extracted from rocks or washed from the beds of streams, contains some alloy, generally silver, but sometimes platinum, copper, and tellurium. This is the reason some miners are disappointed when they sell their gold, as they imagine all gold to be pure.

Bar diggings mean any part of a river over which the water extends when the river is in its flooded state, and which is not covered at low water.

Mines on benches are known as bench diggings.

A legal post is a stake standing not less than four feet above the ground and squared on four sides for at least one foot from the top.

The prevailing law in most districts in Alaska is that only one claim can be taken by a single individual in the same district, but the same miner may hold any number of claims by purchase, and any number of miners may unite to work their claims in common.

Do not neglect providing yourself with at least one pair of eye-shades, and if possible get the kind used by Eskimos. They are made of wood with a narrow cut extending across the front. They give a perfect vision and do not heat, and when removed do not leave the disagreeable sensation of darkness or blurring, always felt after removing goggles.

Make your loads as light and compact as possible. The folding camp-stove is by far the best.

If possible procure Eskimo boots. They are light, warm, and dry, and the most comfortable boot made. Put grass or hay in the bottom instead of cork or sheep's-wool soles.

In selecting your pack, get one having an air space between the body and pack, which will prevent sweating when in use.

Do not neglect mosquito-netting. Mosquitoes and gnats often assume the proportions of a scourge in Alaska, and have been known to drive bears wild. The gnats swarm about and prey upon the eyes, causing blindness unless they are protected.

Never satisfy thirst with snow or ice, always melt first.

If caught in a snowstorm—STOP. Better freeze where you are than wander about only to succumb sooner or later to fatigue.

The reference made to the articles of food and list of supplies given will serve as a general guide, but we would advise those going to Alaska to consider the subject of food from a scientific standpoint.

It must be borne in mind that you are going to a climate far different from your own; to a country where the thermometer may range within twelve months from 90° F. above in summer to 70° F. below in winter, and this remarkable range of temperature should impress one with the importance of giving some heed to the quantity and character of foods necessary to preserve health in this country.

You will find in Alaska the natural conditions and surroundings widely different from those you have been accustomed to, and you will doubtless be surprised that your system yearns for food that you never before have been able to eat and digest, such, for instance, as fatty and oily foods. If you have been unable to eat them here, in Alaska they will be found to agree with you, especially during cold weather.

The demand upon the system for heat and energy is greater in Alaska than in temperate climes, and it requires food of such a nature as will produce these requisites in the body. Scientific analyses, as well as the experiments carried on for years in the Arctic regions by Greely, Peary, and Nansen, have shown that foods containing fats and oils are more nutritious and heat-producing than any other class of foods.

It has also been demonstrated that in a cold climate one can subsist longer on little food if warmly clad than on an abundance of food and light raiment.

In some countries bacon, hardtack, and coffee might answer as a regular diet, where other foods could be obtained that would counteract the tendency to diseases that these articles alone would produce, such as scurvy. In a cold climate this dreaded disease must be guarded against, and to do so one must provide himself with desiccated or condensed fruits, such as apples and peaches or raisins and currants, none of which are liable to spoil in variable temperature. Do not provide yourself with canned fruits, for they are too bulky and occupy six times the space that other fruits containing the same amount of nourishment do; the per cent. of nourishment in canned vegetables and fruits is very slight, being composed mostly of water.

Do not depend too much upon, and do not use, baking-powder bread when other can be had. The mixing of pancakes and bread with baking-powder is so easily and quickly done that, before one knows it, he forms a habit of using it constantly. A steady diet of baking-powder bread is positively injurious, as the powder contains strong alkalies which injure digestion and will ruin the stomach. At every opportunity whenever a stop is made, make a batch of bread of yeast or sour dough. Even the common mixture of flour, water, and salt is far better than baking-powder bread as a steady diet.

If we were to recommend but a single article of food, among the whole list of foods here given, as a meat ration, it would be pemmican. Its components are meat,

tallow, raisins, currants, and sugar. It is compressed into the smallest space, and a ten-pound package will last several months. When the package is opened, it may be used as wanted without danger of spoiling. A small amount can be dug out, emptied into the frying-pan and warmed into a delicious dish in a few moments.

While coffee is relished highly by most men, tea will be found to be not only the most convenient to prepare, but the most faithful standby, and on a long tramp one who rarely ever cared for tea in civilisation would be surprised to find that his frugal meal is not complete without this beverage. In all cold countries, notably Russia and Canadian North America, tea only is relied upon as a quencher of thirst and as a stimulant. It has constant stimulating qualities, and, unlike coffee, which is apt to derange the digestion, it aids it.

Do not under any circumstances indulge in liquor while travelling, and though we believe that one should never be without it in case of an emergency, it is unreliable as a strength promoter, and when one is subjected to severe exposure is positively dangerous. Stimulants tend to relax the nerves controlling the circulation and allow the blood to flow freely to the surface of the body; thus so much of the blood is exposed to the cold that the heat of the body is lost, and the moment the effect of the stimulant is passed, the person is partially numbed, and the cold is felt more than before. If liquors are to be taken when food is scarce and starvation imminent, rum is best as a stimulant, as it is more of a food than the stronger liquors.

Provisions for One Man for One Year

8 sacks flour, 50 lbs. each.
2 " kiln-dried yellow corn-meal, 10 lbs each.
1 " " " white " " 10 "
3 " rolled oats or steel-cut meal, 10 lbs. each.
50 lbs. best Japan rice.
30 " evaporated peaches.
20 " " pitted plums.
20 " " pears.
20 " " apples.
10 " " and seeded raisins.
30 " " apricots.
50 " " potatoes.
10 " " onions.
10 " " soup vegetables.
25 " fine granulated sugar.
2000 saccharin tablets.
6 5-cake packages of dry yeast.
1 box mining candles, 14 oz.
30 lbs. creamery butter.
125 " best boneless bacon.
25 " dried beef hams.
25 " dry salt pork.
6 4-oz. jars beef extract.
6 cans pure cream tartar baking-powder, 1 lb. each.
3 1-lb. packages of saleratus.
2 sacks fine salt, 10 lbs. each; 100 lbs. coarse salt.
1 lb. each of pure ground pepper and mustard.
½ " " " " " ginger and cinnamon.
¼ " pure ground nutmeg.
20 lbs. best green coffee.
5 " tea.
2 gross matches.
48 cans condensed milk.
6 cakes laundry soap.
6 " tar soap.
6 " floating soap.
4 bottles Jamaica ginger, 8 oz.

100 lbs. beans.
40 " hard pilot bread.
10 " each, split peas and pearl barley.
25 " dried green corn.
1 qt. evaporated vinegar.
2 gals. pickles.
10 lbs. pemmican.
20 lbs. oleomargarine.

Drugs

Cathartic pills.
Quinine.
Rhubarb root.
Boracic acid powder for the feet.
Arnica.
Witch hazel.
Plaster.

Clothing

2 suits waterproof Mackinaw underwear.
2 " lighter weight underwear.
2 heavy wool overshirts.
1 Mackinaw coat.
2 cotton overshirts.
1 pair Mackinaw pants.
2 pairs overalls.
6 " heavy wool socks.
6 " German socks.
6 " cotton socks.
2 " heavy blankets, pure wool.
3 " wool mittens.
1 pair wool-lined leather mittens.
1 heavy cap.
1 wide brim hat.
2 sweaters.
1 pair heavy suspenders.
6 towels.
6 bandana handkerchiefs.
1 pair snag-proof rubber boots.
1 " leather hunting boots.

1 pair miner's high shoes.
1 " rubber shoes
1 fur or fleece-lined sleeping-bag.

Hardware

1 pair snowshoes.
1 sled.
1 sheet-iron folding stove.
1 miner's pick, steel point.
1 prospector's pick.
1 extra pick-handle.
1 long-handle, round-point, half-spring shovel.
1 whipsaw.
1 5-foot cross-cut saw.
2 flat saw-files.
1 28-inch rip-saw.
1 hand saw.
2 hand-saw files.
1 single-bit, axe, and helve.
1 whetstone and emery.
1 hunter's hatchet.
1 claw-hammer.
1 prospecting sharpening hammer.
1 calking-iron.
1 jack-plane.
1 draw-knife.
1 10-inch brace.
3 bits—$\frac{1}{4}$-inch, $\frac{5}{8}$-inch, and 1-inch.
2 spools No. 20 copper wire.
1 lb. assorted rivets and burrs.
1 8-inch monkey-wrench.
1 6-inch screw-driver.
1 2-foot rule.
1 6-inch magnet.
1 kit awls and tools.
2 papers 8- and 10-oz. tacks.
3 chisels—$\frac{1}{2}$-inch, $\frac{7}{8}$-inch, and 1-inch.
4 packages hobnails.
2 padlocks and keys.

2 8-inch hasps and staples.
2 pairs 5-inch snap hinges and screws.
1 gross ½-inch and ¾-inch screws.
5-lb. flask of quicksilver.
1 can-opener.
1 chalk-line and chalk.
1 spirit thermometer.
1 pair shears.
1 heavy pocket-knife.
2 acme frying-pans.
1 granite coffee-pot.
2 " plates.
2 " cups.
6 tin spoons.
1 basting spoon.
2 granite buckets, 6- and 8-quart.
1 coil electric solder.
3 knives and forks, heavy.
1 gold-pan.
1 4-oz. gold-scale.
1 pocket compass.
1 magnifying glass.
Lot fishing tackle.
25 lbs. assorted wire nails.
200 feet ½-inch Manila rope.
3 lbs. oakum.
3 " pitch.
2 " tallow.
1 pair steelyards.
1 scythe stone.
1 pair pack-straps.
1 hunter's knife and sheath.
1 cold chisel.
3 sacks, needles, and hank of twine.
1 wall tent, 8 x 10, 8-oz. duck.
1 tarpaulin.
1 hand-bellows.
1 single-barrel repeating shotgun, fixed ammunition.
1 pair Eskimo eye-shades.

CHAPTER XVI

THE BOUNDARY DISPUTE

THE early founders of the American nation, who sought an asylum in New England, free from the religious intolerance and oppression of the mother country, declared that they offered a shelter to the "oppressed of every nation." The invitation thus extended by the early pioneers was generous, and how it has been taken advantage of is evidenced to-day by the fact that the United States has a cosmopolitan population.

Those who sought these shores to make homes and become good citizens have been welcomed. They have had the protection of Government and have become factors in the upbuilding of the Republic. And the open arms and generous freedom which the United States has ever extended to kinsmen over the water are traits that but typify our national characteristics. No sentries have been stationed on crag or promontory to warn off intruders; no large standing army has been maintained in order that the people might exercise all their rights of citizenship. Differences with other nations which have arisen from time to time have been, for the most part, settled by arbitration. Sometimes we have had our rights acknowledged, and at others we have acquiesced

in unfavourable decisions, that the credit and honour of the nation might be maintained and that peaceful relations might be sustained. No spirit of national aggrandisement has been manifest in the history of the United States. The notable wars of this nation have been waged in the name of life and liberty, and for the united country.

For a number of years prior to the releasing of the fur-seal islands, which occurred in 1890, the United States declared that Bering Sea was a closed sea, and as such, the fur seal could not be hunted in those waters unless subject to such rules and regulations as this Government saw fit to promulgate.

This position was opposed by Great Britain, and the dispute resulted in submitting the question to a tribunal which convened in Paris in 1893.

The award of this tribunal was disastrous to us, and seems to have been most unjust, but as an advanced civilised nation, our honour would be impugned were it not strictly adhered to. No nation worthy of the name can afford to besmirch its reputation by any attempt to repudiate a solemn compact. Hardly had the decision of the Paris tribunal been handed down, before the attention of the country was called to a matter in which England again became the aggressor, and that, too, in connection with the Territory of Alaska. This is the so-called boundary dispute between Canada and the United States, embracing a portion of South-eastern Alaska. While the British and Canadian authorities have been active, our Government and people have shown an apathetic spirit in dealing with the question; but it is now

noted that attention is being directed to it, largely through the instrumentality of citizens of Alaska and the State of Washington who are conversant with the question, and the importance of this strip of territory, from commercial and geographical aspects, being retained to the northern territory and to the United States. We believe that it is time for a re-enunciation of the patriotic principle contained in the Monroe Doctrine, if our self-respect as a nation cannot be otherwise maintained— "that the United States will not permit European interference or European control in America, north or south."

In view of the importance of this question to the United States, and especially to Alaska, it is in order here to consider the subject in its various details. The claim made by the British Government, acting at the instance of Canada, embraces a valuable strip of land, a portion of which is the key to a vast extent of the interior of Alaska, rich in mineral and other resources. Though the immense value of this land cannot be accurately determined, a knowledge of its geographical position on the coast shows that great commercial advantages will accrue from its possession, and that the United States cannot afford to be otherwise than firm and aggressive in asserting and maintaining our rights to ownership of this strip.

An interpretation of the treaty concluded between Russia and England in 1825 clearly establishes the line of demarcation between what is now Alaska and what constitutes a portion of Canada.

This treaty was brought about primarily by a ukase of the Russian Czar, issued in 1821, to the effect that

foreign vessels would not be allowed to approach within one hundred miles of Russian America. Negotiations followed this ukase, resulting in the treaty between Russia and England in 1825, wherein Russia accepted 54 degrees and 40 minutes north latitude as the southern limit of her possessions. The treaty was couched in the following language:

"Sec. 3. The line of demarcation between the possessions of the high contracting parties upon the coast of the continent and the islands of America to the north-west, shall be drawn in the following manner: Commencing from the southernmost point of the island called Prince of Wales Island, which point lies in the parallel of 54 degrees 40 minutes north latitude, and between the 131 and 133 degrees of west longitude, the same line shall ascend to the north along the channel called Portland Channel as far as the point of the continent where it strikes the 56 degree of north latitude; from this last mentioned point the line of demarcation shall follow the summit of the mountains situated parallel to the coast, as far as the point of intersection of the 141 degree of west longitude (of the same meridian), and finally, from the said point of intersection of the 141 degree, in its prolongation as far as the frozen ocean, shall form the limit between the Russian and British possessions on the continent of America to the north-west.

"Sec. 4. That wherever the summit of the mountains, which extend in a direction parallel to the coast from the 56 degree of north latitude to the point of intersection of the 141 degree of west longitude, shall prove to be at the distance of more than ten marine leagues from the ocean, the limit between the British possessions and the line of coast which is to belong to Russia as above mentioned, shall be formed by a line parallel to the windings of the coast, and which shall never exceed the distance of ten marine leagues therefrom."

It will be noted that at the time of the purchase of

Russian America by the United States, in 1867, the limits of the territory were described in the articles of cession by Russia in the exact language which appears in this treaty above referred to. It will also be observed that the name Portland Canal is mentioned as the eastern boundary as far north as the fifty-sixth degree north latitude.

At the time of the treaty between Russia and England little was known of this region, save through the explorations of Captain George Vancouver. In his narrative published towards the close of the last century, he speaks of Portland Canal, and also located a certain rock in Behm Canal, which he named New Eddystone Rock.

When the treaty of 1825 was made, England recognised the claim of Russia to the territory as far east as Portland Canal, and continued this recognition until the purchase was made by the United States in 1867. For more than twenty years preceding the treaty, the Hudson Bay Company paid Russia an annual rental for the privilege of trading in the inland waters to the north-west of Portland Canal, and our Government maintained a garrison at Fort Tongas at the mouth of this canal until 1870 and a custom-house until 1889.

The maps issued by the United States since the Alaska purchase and those published by the British authorities followed generally the same line of demarcation until the year 1887. At that time a change was noticed in the British maps, for their line was then made to extend within the limits defined by the maps of our Government. Hence, it is only fair to infer that when this strip of land became better known to England, and its value more or

less accurately determined, a first attempt was made to set up a claim to the territory through the medium of maps published by the British Government.

And the claim once set up, it may be further inferred that in any negotiations which should follow, England would rely upon the power of British craft and diplomacy to win both the point and the territory. The policy pursued by the English Government in this matter is entirely in keeping with the method of aggrandisement that has been followed for hundreds of years by Great Britain.

The line of demarcation followed by the United States extended ten marine leagues back from salt water into the interior, claiming a strict interpretation of the articles of cession from Russia, whose language was construed to mean ten marine leagues, or thirty-four miles inland, *from every point, whether bay or inlet*, where salt water washed the shores of the mainland, unless a defined range of mountains intervened running parallel with the coast, in which case the summit of such range became the limit.

The British claim that, where the summits of the mountains are not within the ten-marine-league limit, the boundary shall be that distance from the *main channels of water*. They also claim that the eastern boundary shall run *due north* from the southernmost point of Prince of Wales Island until it intersects Behm Canal; thence following this channel north as far as the fifty-sixth degree of north latitude; thence following the line of the coast to the intersection of the one hundred and forty first degree of west longitude. Nowhere along the coast between Portland Canal and Mt. St. Elias does there ap-

pear to be a defined range of mountains, but rather a confused jumble, having no regularity of course or bearing any relation to each other, and the noble peak, Mt. St. Elias, that defines the boundary between the British possessions and our Territory at the one hundred and forty-first degree of west longitude, stands solitary and alone in its awe-inspiring magnificence.

By reference to our map, it will be observed that in taking Portland Canal as the eastern limit, an *eastward* course must be followed from the southernmost point of Prince of Wales Island in order to reach said canal. It will also be noted that from the extreme northern limit of Portland Canal to the nearest salt water—that of Walker Cove, an arm of Behm Canal—is about thirty-four miles. It is therefore fair to presume that in taking the canal for a boundary, it was with a view of measuring from the inland waters, and not the main channels. It is also worthy of note that, if it was not intended to take this canal for the eastern boundary, it would not have been necessary to mention it in the treaty, and the simple reference, *due north*, would have been all that was necessary to convey the intent.

It is also claimed by the British that this canal could not have been intended, because it does not extend to the fifty-sixth degree. It is true that it does not reach that point by about one mile, but if it were five or even ten miles shorter, it would not be any stronger for the other side, for, in the language of the treaty, "the same line shall ascend to the north along the channel called Portland Channel as far as the point of the continent where *it* strikes the 56 degree," the *line* is what is intended

should strike the fifty-sixth degree, and not the *channel.* Should, then, the claim of Great Britain be finally allowed, she will acquire a strip of country seventy-five by one hundred miles in extent between Portland and Behm Canals, which rightfully belongs to the United States.

While stress is laid upon the encroachments that this boundary line of the British would make upon our eastern coast, it cannot be too clearly demonstrated, that where their boundary line deflects westward at about fifty-eight degrees forty minutes north, and thence follows to the one hundred and thirty-sixth degree of west longitude, and there takes a south-westerly course to Mt. St. Elias, is to be found a strip of coast territory upon which the natural greed of England has particularly set its eye.

The British claim to this one hundred square miles of territory would also include Glacier Bay, the most wonderful body of water in the world. It is about twenty miles wide by forty long. Ten other glaciers besides the celebrated Muir Glacier pour their huge bodies into this magnificent bay, and then move on through channels many fathoms deep out into the sea. Snow-clad mountains with their deep ravines, moraines, and mountainous gorges fringe the bay on all sides, and help to form one of the most enchanting and delightful spots that the imagination can conceive.

It is well known that a foreign ship cannot land passengers on American soil without conforming to certain laws, and as long as Glacier Bay is in United States territory, British ships cannot transport tourists travelling over Canadian roads and land them in this bay. Neither can foreign ships discharge foreign goods in American terri-

tory without observing certain customs regulations. But if the English should acquire territory inside any of the inland waters of Lynn Canal, they could establish stations, construct trails or waggon routes into the interior, and offer serious competition to American merchants for the control of the enormous trade of the vast interior country.

It is clearly apparent that many reasons besides the mere desire to acquire a strip of land cause England to push her claim to a settlement of the boundary question in her favour.

In our controversy with England many years ago over the northern boundary of the Territory of Oregon, which gave rise to the cry, "Fifty-four forty or fight," our claim was that the United States boundary should extend to the point where our Alaskan possessions now begin; and had we not weakly receded from our position, the stretch of British territory which lies between the State of Washington and Alaska might have been ours, thus giving us a continuous coast-line from California to the Polar Sea.

That it is clearly the intention of the Canadian Government, backed by England, to secure this strip of territory is unmistakable. For the past two years the labours of the Canadian Boundary Commission have been marked by a determination to obtain all possible information concerning the disputed territory. Government engineers and surveyors have been indefatigable in their explorations to secure in detail thorough and exhaustive knowledge, which will be placed before the joint commission when the boundary question again comes up for adjudication.

There is no doubt that the Canadian Government will make out the strongest possible case, and in this it will be aided by the intimate knowledge of the country gained by the actual investigation of their engineers. But it seems to us that a correct interpretation of the treaty of 1825, coupled with a firm presentation of our case, should leave the British claim without any support whatever, and with such vigorous assertion of our rights, Alaska will not be despoiled of a valuable portion of her heritage.

Table of Distances

	NAUTICAL MILES.
San Francisco to Seattle	820
San Francisco to Sitka (outside)	1295
San Francisco to Dutch Harbour or Unalaska (outside)	2400
Seattle to Juneau	976
Seattle to Dutch Harbour or Unalaska	2000
Seattle to Port Townsend	38
Seattle to Sitka (outside)	850
Port Townsend to Victoria	32
Victoria to Nanaimo	76
Nanaimo to Seymour Narrows	80
Seymour Narrows to Mary Island	455
Mary Island to Ketchikan	40
Ketchikan to New Metlakahtla	16
Ketchikan to Loring	25
Loring to Yaas Bay	19
Loring to Wrangel	90
Wrangel to Telegraph Creek	200
Telegraph Creek to Teslin Lake	130
Wrangel to Wrangel Narrows	32
Wrangel Narrows to Juneau	96
Juneau to Treadwell Mill	2½
Juneau to Berner's Bay	46
Juneau to Chilkat	90

	NAUTICAL MILES.
Juneau to Dyea	100
Chilkat to Glacier Bay	146
Glacier Bay to Sitka	158
Juneau to Sitka	185
Sitka to Killisnoo	72
Sitka to Hot Springs	15
Sitka to Yakutat	210
Sitka to Nuchek	440
Sitka to Kadiak	560
Sitka to Karluk	628
Sitka to Unga	888
Sitka to Sand Point	882
Sitka to Belkoffsky	942
Sitka to Dutch Harbour or Unalaska	1250
Dutch Harbour to Seal Islands	220
Dutch Harbour to St. Michaels	745
Dutch Harbour to Bering Strait	820
Bering Strait to Point Hope	250
Point Hope to Point Barrow	300
Point Barrow to mouth of Mackenzie River	550

Table of Distances from Dyea, Head of Steamboat Navigation, over the Pass to Dawson

	MILES.
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